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ABSTRACT

This report is the second in a series of periodic updates on the achievement gap among various demographic groups in the Wake County Public School System (WCPSS). For this report, students' academic success in WCPSS was studied, based on outcomes such as achievement test scores, dropout rates, and course enrollment. In some areas, the gaps in student outcomes in the WCPSS have narrowed. Gaps in skill levels are evident when students enter WCPSS schools, with Hispanic, Black, Asian, and low-income students entering school lacking more skills than White and higher income students. At grades 3 through 8, the percent of students achieving at or above grade level on the End-of-Grade tests has increased for all racial groups since 1993-1994, although performance still varies widely across groups. Larger increases in the percentage of black students scoring at or above grade level in 2000-2001 resulted in the smallest gaps between WCPSS black and white students of the past 8 years. The achievement gap between Hispanic and White students has not closed. The gap between white and minority students has closed somewhat at the high school level in terms of basic skills, but less improvement is evident when one considers advanced skills. Many factors contribute to the gaps, including mobility rates of students, the supplemental financial resources of the schools, and a lack of overall resources in the WCPSS. (Contains 45 figures and 1 reference.) (SLD)

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GAPS IN ACADEMIC ACHIEVEMENT:
WCPSS STATUS 2001-02

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WAKE COUNTY PUBLIC SCHOOL SYSTEM

TABLE OF CONTENTS

Page

REPORT SUMMARY i

INTRODUCTION 1

A DEMOGRAPHIC VIEW 3

Wake County Population by Race 3

Population Comparisons with Other Urban Counties in North Carolina 4

WCPSS Membership by Race 5

WCPSS Elementary Schools' Free or Reduced-Price Lunch Rate by Race 7

WCPSS Special Programs 8

Kindergarten Readiness 9

ELEMENTARY AND MIDDLE SCHOOL ACHIEVEMENT 12

End-of-Grade Tests 12

Comparisons with Other Urban Districts in North Carolina 14

Changes over Time 15

Student Characteristics by Achievement Level 18

HIGH SCHOOL ACHIEVEMENT 20

Basic Skills Indicators 20

English I End-of-Course Test Results (Grade 9) 20

Algebra I End-of-Course Test Results (Grades 7-12) 21

Competency Test Scores 23

Dropout Rates 24

Advanced Skills Indicators 26

SAT Scores in WCPSS and Comparisons with N.C. and the Nation 26

Participation in Chemistry or Physics 27

AP Participation and Exam Results 28

UNDERSTANDING THE GAP **31**

Student Mobility versus Stability 31

Staff Characteristics and Turnover 33

Parent and Community Involvement 37

Per-Pupil Expenditures 40

Research on Closing the Gap 41

REFERENCES **42**

GAPS IN ACADEMIC ACHIEVEMENT: WCPSS STATUS 2001-02

REPORT SUMMARY

BACKGROUND

This is the second in a series of periodic updates on the achievement gap among various demographic groups in the Wake County Public School System (WCPSS). In this report, we examine students' academic success in WCPSS based on outcomes such as achievement test scores, dropout rates, and course enrollments.

Gaps have been evident in the achievement of students with different backgrounds and characteristics for decades. These gaps in achievement are one of the biggest challenges facing educators across the country. Finding ways to successfully close the achievement gaps is even more challenging in the face of rising expectations of the new federal No Child Left Behind act. Our hope is that this updated report will stimulate further discussion in the community and lead to more effective efforts to help all students reach high standards.

MAJOR FINDINGS

In some areas, the gaps in student outcomes in WCPSS have narrowed over time, albeit not as much as we would have hoped.

1. Gaps in skill levels exist when students enter the WCPSS schools. KIA results indicate that Hispanic, Black, Asian, and low-income students enter WCPSS schools lacking more skills than White and higher-income students.

2. At grades 3-8, in both North Carolina and WCPSS, the percent of students achieving at or above grade level on the End of Grade (EOG) tests has increased for all racial groups since 1993-94, although performance still varies widely across groups.

    - White and Asian students show the highest performance. Black and Hispanic students and students receiving free or reduced-price lunch (FRL) have the lowest percentage of students meeting state standards. (Skill deficits shown in the KIA scores for Asian students are no longer evident by 3rd grade.)

    - Gaps have narrowed between the performance of White and Black students and that of Black and Native American students, who have shown the greatest gains since 1993-94. Larger increases in the percentage of Black students scoring at or above grade level in 2000-01 resulted in the *smallest gaps between WCPSS Black and White students of the past eight years*. The gap has closed more in 8th grade than in 3rd grade, both in reading and mathematics.

    - The percentage of Hispanic/Latino students scoring at grade level or above has increased slightly less the percentage for White students since 1993-94, so this achievement gap has not closed.

2. At the high school level, the gap has decreased somewhat based on measures of basic skills, especially the gap between Black and White students.

   - On the End-of-Course (EOC) English I test, Whites and Asians have shown the highest percentages of students at or above grade level. All racial/gender subgroups were more successful in 2001 than they were in 1996 on this test, with Black students showing the greatest gains. Thus, the gap between White and Black student achievement in English has narrowed slightly.

   - Differences across racial/gender groups on the Algebra I EOC test were much smaller than differences on the English I test, with Black and Hispanic/Latino students showing stronger performances. Black students have shown the most improvement since 1996, therefore closing the existing gap somewhat.

   - Competency test pass rates are higher for White, Native American, Multiracial, and Asian students than for Black and Hispanic/Latino students. The gap between the performance of Black and White students has improved over time.

   - The WCPSS dropout rates for grades 7-12 for ethnic groups have been declining, as has the overall dropout rate for WCPSS. Since 1994-1995, the gap between the dropout rate for Black students and White students has been cut in half, decreasing from 4.3 to 2.1 percentage points. Between 1999-2000 and 2000-01, the dropout rate declined .3 percentage points more for Black students than for White students.

3. On measures of more advanced skills in high school, less improvement is evident.

   - WCPSS scores well overall on the SAT, with SAT total scores for seniors in 2000-01 at 1,054, the fifth highest in the state. There is a large gap between the average scores of Black and White students at the national, state, and local levels, and this gap has been increasing over time. This trend continued for 2000-01. In WCPSS, WCPSS White students improved their average scores by seven points between 1999-2000 and 2000-01, while Black student scores declined by five points.

   - Based on advanced course enrollments, far more Asian and White students (70%) completed a chemistry course by the end of the 12th grade than Black or Hispanic/Latino students (about 45-50%).

   - Participation in physics was lower than for chemistry for all groups, with Asian students (56%) most likely to participate. White students showed the next highest participation rate (about 36%), followed by Hispanic (about 25%) and Black students (15%).

   - Asian and White students were overrepresented in their enrollment in AP courses in 2000-01, and in the number of AP exams taken compared to the percent of the 11th and 12th grade membership they represent. In contrast, Black students remained the most underrepresented. Among those who did take AP exams, Black students tended to score lower than White students, although the gap in English literature was only 8%.

4. Many factors contribute to the gaps. Some that appear to be important in WCPSS are:

   - Mobility rates continued to vary widely by race and economic status. The mobility rate for students from low-income families was also much greater than for higher-income families across all racial groups.

   - Schools with the lowest percentages of FRL students continued to have access to more supplemental financial resources than schools with the highest percentage of FRL students.

   - Per-pupil expenditures continue to be lower in WCPSS than is true in other large North Carolina districts. The lack of resources makes it more difficult to address students' needs, although progress is also apparent.

In short, progress in closing the gap is stronger in elementary and middle school than in high school. Resources available to schools, mobility, and course-taking patterns are areas that deserve a closer look.

INTRODUCTION

This is the second in a series of periodic updates on the achievement gap among various demographic groups in the Wake County Public School System (WCPSS). This report updates and expands upon the data reported in 2001 in E&R Report No. 01.24. We are producing this report in part to support the WCPSS in meeting a challenging achievement goal: that 95% of students will score at or above grade level in reading and mathematics by 2003, benchmarked at grades 3 and 8. As a system, we also want optimal academic success for all of our students. *To attain these levels of excellence, all students must show strong achievement, with no large gaps in the performance of subgroups.*

In this report, we examine students' academic success in WCPSS based on various outcomes such as achievement test scores, dropout rates, and course enrollments. When available, we also compare the present performance of WCPSS with past performance, or WCPSS performance with that of comparable school systems or national data.

In determining which demographic groups to include in our analyses, we considered several factors. As the student population of WCPSS has grown, some demographic groups have grown large enough to include in district-wide analyses, but are not yet large enough for separate reporting in other analyses such as the composition of our relatively small dropout population (e.g. multi-racial or Asian students.) In other cases, the group sizes might have been large enough for analysis, but modifying computer programs to generate the data would have caused unacceptable delays in this report. Primarily, the groups that are sometimes combined and sometimes separated for this report are multi-racial, Asian, and Native American students.

Gaps have been evident in the achievement of students with different backgrounds and characteristics for decades. Results on the National Assessment of Educational Progress (NAEP) have found significant differences in the achievement of poor students versus other students (Anderson, Hollinger, and Conaty, 1992; Williams, 1996) and in the achievement of Black and Hispanic/Latino students versus White students (Williams, 1996). Differences in the achievement of Black and White students have been broadly reported upon kindergarten entry and throughout students' K-12 experience (Jencks and Phillips, 1998). The results for different races and income levels are related, in that Black, Hispanic/Latino, Native American, and multiracial students are more likely to be low income than are White students. However, it must be remembered that *students of all racial backgrounds can be found at all levels of achievement.*

The issue of achievement gaps has received considerable attention in our state recently, including the formation of a North Carolina Commission on Raising Achievement and Closing Gaps, establishment of annual state-sponsored conferences on "Closing the Achievement Gap," and an emphasis on implementing the new federal legislation "No Child Left Behind." Closing the achievement gaps becomes more challenging in the face of rising expectations of success for *all* students, as reflected in some sections of this report. In North Carolina and WCPSS, all racial groups have increased in the percent of students at or above grade level since 1993-94, although performance still varies widely across groups. White and Asian students still show the highest performance. The gap has narrowed between their performance and that of Black and Native American students, who have shown the greatest gains. North Carolina overall has shown

greater progress with Native American students than WCPSS, with the opposite being true for Black students.

Figure 1

Gains in the Percentage of WCPSS Students Considered at or above Grade Level on End-of-Grade Tests in Both Reading and Math Between 1994 and 2001

Group	NC Gain	WCPSS Gain
Native American	26.7	14.9
Black	20.0	21.9
ALL STUDENTS	**16.2**	**14.0**
White	15.8	12.6
Hispanic/Latino	11.4	12.1
Asian	9.3	7.4

Note: The percentages used in calculating gains were based upon all students who were tested in both Reading and Mathematics.

As shown above, in WCPSS the gaps in EOG achievement by subgroup also showed improvement for Black and Native American students, although the gains were smaller in our district than were found statewide. The gaps in student outcomes in WCPSS, as you will see in this report, have narrowed in some cases, but not as much as we would have hoped. Our hope is that this updated report will continue to stimulate discussion in the community and lead to more effective efforts to help all students reach high standards.

A DEMOGRAPHIC VIEW

Students in WCPSS are drawn from a larger community of Wake County and North Carolina citizens. It is helpful to understand more about that larger community in order to evaluate the performance of our school system and to identify the areas in which we may learn from our peer school districts.

WAKE COUNTY POPULATION BY RACE

Wake County is a richly diverse area with a growing population. The figures below show the 1990 and 2000 U.S. Census statistics for Wake County by race. As shown in the following figures, the entire county grew by nearly 50% during the decade. Black and White populations, which compose more than 90% of the population, grew by more than one third, and other minority groups grew much more rapidly during the decade. The most dramatic increase was in the Hispanic/Latino population (528.3%).

Figure 2

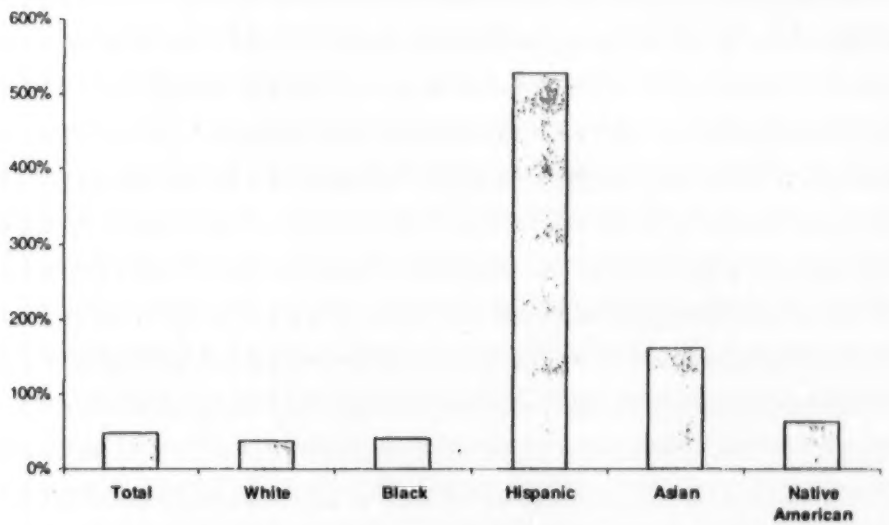
Wake County Population Estimates by Race, U.S. Census Bureau

	Total	White	Black	Hispanic/ Latino	Asian	Native American
1990	423,380	318,615	88,057	5,396	8,177	1,148
2000	627,846	438,864	123,686	33,904	21,347	1,884
% Gain	+48.3%	+37.7%	+40.5%	+528.3%	+161.1%	+64.1%

Note: Subgroup populations do not add exactly to the total because of Census Bureau estimation methodology.

Figure 3

Wake County Population Growth Rate by Race, 1990 to 2000



Hispanic/Latino, Asian, and Native American populations still composed only a relatively small percentage of the overall population of the county in 2000. However, if growth rates continue into the coming decade, their presence will have an increasing impact on both the county and the school district.

POPULATION COMPARISONS WITH OTHER URBAN COUNTIES IN NORTH CAROLINA

Based on data from the U.S. Census Bureau's model-based income and poverty estimates, about 13% of the total population of Wake County was below the poverty line in 1997, with about 11% of children living in poverty. At the same time, Wake County had, by far, the highest median household income of the five largest urban counties in North Carolina.

Figure 4

Wake County Population, Income, and Population Living in Poverty

County	Total Population (2000 Census)	Median Household Income (1997)	Persons below Poverty (1997 model-based estimate)	Children below Poverty (1997 model-based estimate)
Wake	**627,846**	**$51,391**	**12.6%**	**11.3%**
Mecklenburg	695,454	$45,350	9.7%	14.7%
Guilford	421,048	$39,721	11.2%	17.3%
Forsyth	306,067	$39,536	10.8%	16.2%
Durham	223,314	$40,007	12.4%	19.4%

Source: U.S. Census Bureau QuickFacts

Wake County is more affluent than other urban districts in the state and includes a higher percentage of White residents. The county as a whole is more affluent than the students in the district, and has a higher percentage of White residents and a lower percentage of Black residents than the population of the school district (see following figure).

Figure 5

Wake County in Comparison with Other North Carolina Urban Counties, 2000

County	Total Population (2000 Census)	White	Black	Hispanic/ Latino	Asian	Native American
Wake	**627,846**	**69.9%**	**19.7%**	**5.4%**	**3.4%**	**0.3%**
Mecklenburg	695.454	61.1%	27.9%	6.5%	3.1%	0.4%
Guilford	421,048	62.9%	29.3%	3.8%	2.4%	0.5%
Forsyth	306,067	66.1%	25.6%	6.4%	1.0%	0.3%
Durham	223,314	48.1%	39.5%	7.6%	3.3%	0.3%

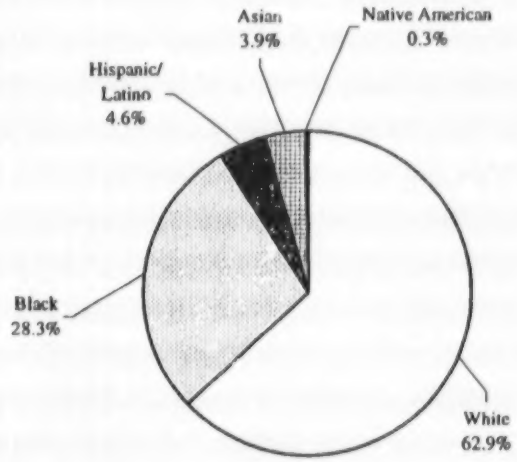
Source: U.S. Census Bureau QuickFacts

WCPSS MEMBERSHIP BY RACE

White students are the largest proportion of all students in the WCPSS. Black students represent the largest of the minority groups, followed by Hispanic/Latino, Asian, and Native American students.

Figure 6

WCPSS Membership by Race, 2000-01



Source: North Carolina Department of Public Instruction (2001). Statistical Profile. Raleigh, NC: North Carolina Department of Public Instruction, Statistical Research Section.

Although White students represent the largest proportion of all students, the proportion that they represent has declined from 70% in 1990 to 63% in 2001 (see Figure 7). All minority groups are growing at a faster rate than White students with Hispanic/Latino students having the largest increase in the past year as well as over the period from 1990 to 2001.

Figure 7

WCPSS Membership Change from 1990 to 2001 by Race

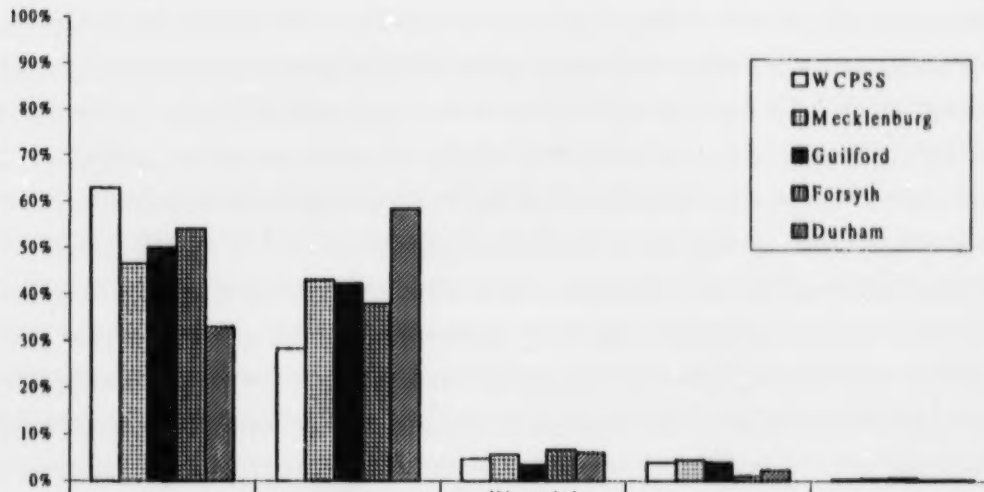
	Asian	Black	Native American	Hispanic/ Latino	White
1990	1,425	16,891	123	466	43,557
2000	3,596	26,132	245	3,603	61,442
2001	3,854	27,927	262	4,551	62,147
One-Year Increase	7%	7%	7%	26%	1%
Percent Increase from 1990 to 2001	+170%	+65%	+113%	+877%	+43%

Source: North Carolina Department of Public Instruction, Statistical Profile (2001).

As shown below, comparisons of urban school systems in 2000-01 in North Carolina with county 2000 census statistics (Figure 5) reveal that WCPSS has a student population that more closely mirrors its county's racial population than is true in the other systems. The percentage of minority students is slightly higher than that of county residents overall.

Figure 8

2000-01 Student Membership by Race in Five Urban NC School Systems



	White	Black	Hispanic/ Latino	Asian	Native American
WCPSS	62.9%	28.3%	4.6%	3.9%	0.3%
Mecklenburg	46.6%	43.0%	5.5%	4.4%	0.5%
Guilford	50.0%	42.2%	3.3%	3.8%	0.7%
Forsyth	54.1%	37.9%	6.6%	1.1%	0.3%
Durham	32.9%	58.6%	6.0%	2.3%	0.3%

Source: North Carolina Department of Public Instruction, Statistical Profiles (2001).

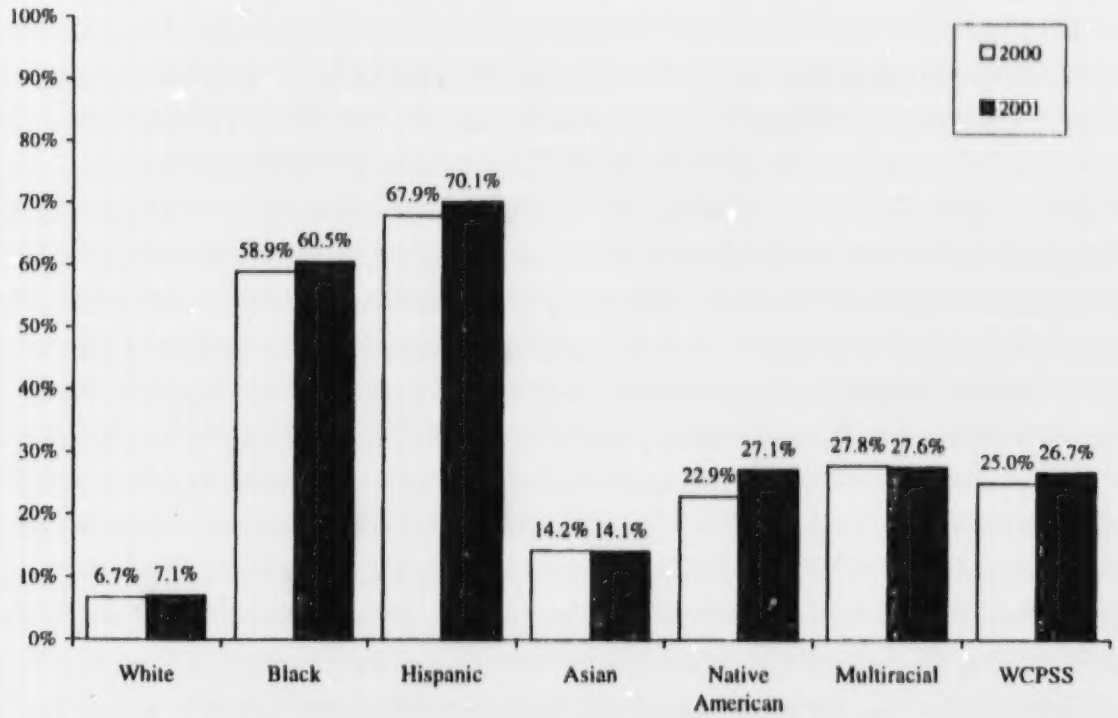
WCPSS ELEMENTARY SCHOOLS' FREE OR REDUCED-PRICE LUNCH RATE BY RACE

The participation of students in the federally subsidized school lunch program is one broad indicator of the economic status of various groups. Participation rates in middle school and high school yield an underestimate of the rate of poverty because older students sometimes choose not to participate in the lunch program for a variety of personal reasons. In October 2001, about 27% of WCPSS elementary students received free or reduced-price lunches (FRL). A family of four had to earn less than $2,722 per month to qualify for the program. As illustrated in the figure below, the percentage of students in each racial group who come from relatively low income families varies, with Hispanic/Latino and Black students much more likely to come from low-income homes than other groups.

The overall percentage of WCPSS elementary students who received free or reduced price lunches in 2001 was slightly higher than in 2000 (27% compared to 25%). As shown below, the increase occurred because a higher percentage of Black, Hispanic/Latino, and Native American students came from low-income homes in 2001.

Figure 9

Percentage of WCPSS Elementary Students on Free or Reduced-Price Lunch October 2000 and October 2001



Source: October 2001 student locator (SILDPC40_ALL_D101501.txt) file

WCPSS SPECIAL PROGRAMS

A recent national study at Harvard University found that Black students were identified for special education programs at a much higher rate than White students. For example, nationally, Black students were identified as Learning Disabled at a rate of 1.3 times the rate of White students (Mathews, 2001). This is very close to the relative rates in WCPSS for Black and White students.

The following figure compares the percentage representation of students from various racial backgrounds in the general WCPSS population with their representation in various special programs. Relative to their overall percentage in the WCPSS population, Black students are greatly overrepresented in the category of Behaviorally/Emotionally Disabled (BED), somewhat overrepresented in the Learning Disabled (LD) category, and underrepresented in the Academically Gifted (AG) category. The pattern for White students is reversed. Hispanic/Latino students are underrepresented in all categories shown below, although the underrepresentation in the Learning Disabled rate is very small.

The AG and BED categories rely upon more subjective criteria for identification than categories such as Visually Impaired or Hearing Impaired, which are based on clearly identifiable physical handicaps. The distribution of students by race who are visually or hearing impaired is relatively close to each group's representation in the total WCPSS population.

Figure 10

Distribution of WCPSS Special Program Populations by Race, October 2001

	Percent of All Students		Percent of All Academically Gifted		Percent of All Behaviorally/ Emotionally Disabled		Percent of All Learning Disabled		Percent of All Visually or Hearing Impaired	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Total Count	97,710	101,294	15,168	15,887	746	723	6,541	6,909	153	165
Black	25.8%	26.2%	5.8%	6.0%	65.4%	65.2%	35.8%	36.2%	33.3%	31.5%
White	64.6%	61.6%	86.3%	85.6%	31.8%	30.6%	57.9%	56.5%	58.2%	57.0%
Hispanic/ Latino	4.1%	5.7%	1.1%	1.2%	1.1%	1.5%	4.2%	4.8%	2.6%	3.6%
Asian	4.0%	4.1%	5.8%	5.9%	0.3%	0.6%	0.8%	0.8%	3.9%	4.2%
Native Am.	0.3%	0.3%	0.2%	0.2%	0.4%	0.3%	0.3%	0.4%	0.0%	0.0%
Multiracial	1.4%	2.1%	0.9%	1.1%	1.1%	1.9%	1.0%	1.4%	2.0%	3.6%

Source: Counts taken from student files in October 2000 and October 2001.

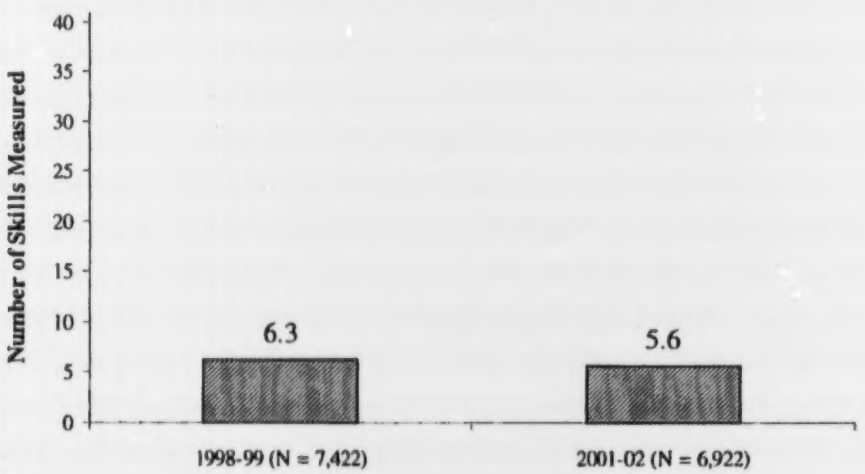
KINDERGARTEN READINESS

Children who enter WCPSS schools are assessed with an instrument called the Kindergarten Initial Assessment, which determines whether they have skills generally expected of entering kindergarteners for academic purposes. In 1998-1999, most students entered with strong readiness skills. On average, individual students lacked 6.3 of the 41 skills assessed. At the beginning of the 2001-2002 school year, students entered kindergarten with stronger skills, lacking an average of 5.6 of the 41 skills.

Sixteen percent of kindergarten students lacked 10 or more skills at the beginning of the 2001-2002 school year compared with about 20% four years ago. *Gaps in skill levels exist as students enter our schools.* The percentage of Hispanic/Latino students lacking 10 or more skills was more than twice as great as the next highest group (Black students). The percentage of Black and Asian students who lacked 10 or more skills was also higher than that for White, Native American, and Other students. Hispanic/Latino results are inflated somewhat because some incoming Hispanic/Latino students have limited English proficiency, and the assessment reflects only skills they could demonstrate in English. Demographically, about 5% of students entering kindergarten were identified as limited English proficient (LEP) at the beginning of the 1998-1999 school year compared with 7% of LEP students entering kindergarten at the beginning of the 2001-02 school year.

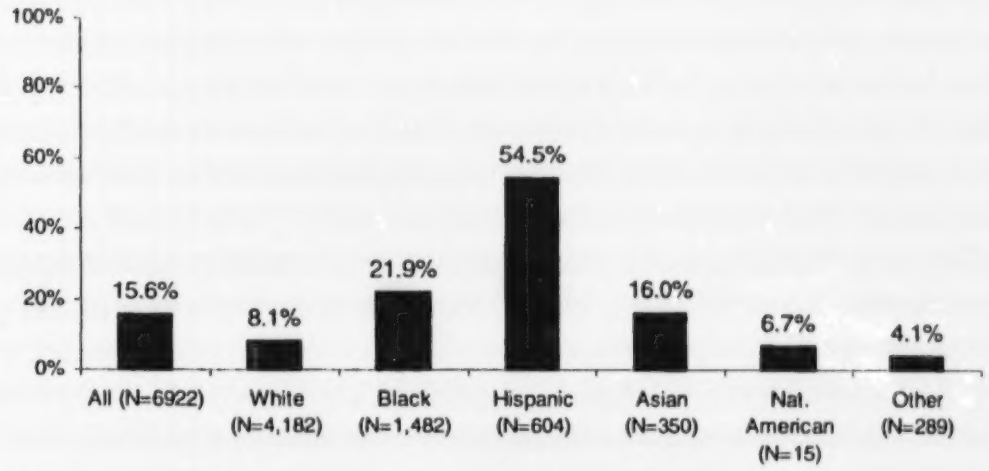
Figure 11

Average Number of Skills Lacking for Entering Kindergarteners, 1998-99 and 2001-02



Source: Kindergarten Initial Assessment

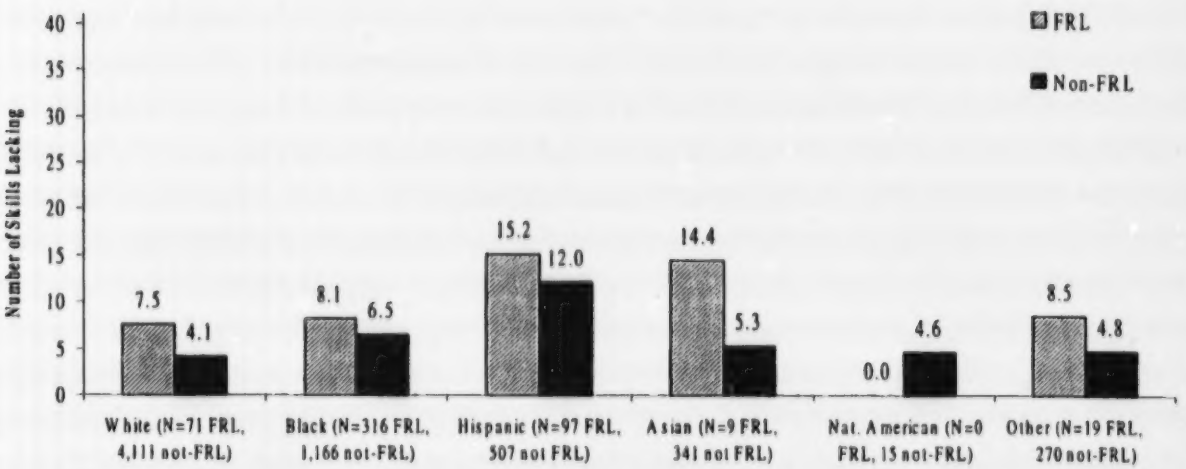
Figure 12
Percentage of Kindergarten Students Lacking 10 or More Skills by Race, 2001-02



Source: Fall 2001 Kindergarten Initial Assessment

The following figure disaggregates the results by ethnicity and income status. (Students receiving free or reduced priced lunch are considered low income.) Low-income students have a higher average number of the 41 skills not mastered as they enter kindergarten than higher-income students in all ethnic groups.

Figure 13
Student Averages of 41 Skills Lacking, by Race and Income Status, 2001-02



Source: Fall 2001 Kindergarten Initial Assessment

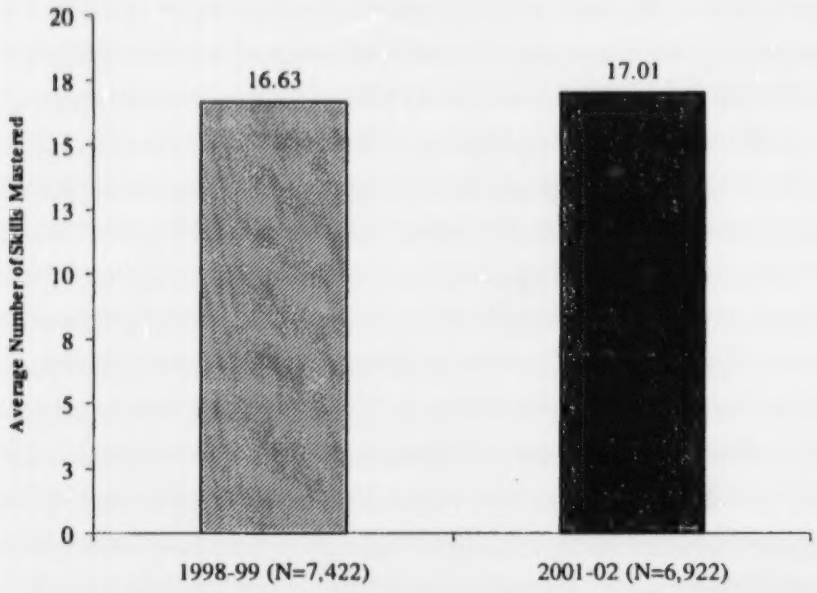
There are 20 assessment items in language and literacy on the Kindergarten Initial Assessment that were comparable from 1998-99 to 2000-01. Skills assessed include whether the student can:

- identify the meaning of basic concepts (e.g., color);
- follow 1, 2, and 3 step directions; and
- use language in imaginative play.

As the following figure demonstrates, a comparison of students entering kindergarten at the beginning of the 1998-99 school year and the students at the beginning of the 2001-02 school year shows a slight trend towards better skills for students entering during the current school year.

Figure 14

Average of 20 Language and Literacy Skills Mastered before Kindergarten Entry



Source: Kindergarten Initial Assessment

ELEMENTARY AND MIDDLE SCHOOL ACHIEVEMENT

END-OF-GRADE TESTS

North Carolina End-of-Grade (EOG) tests are given at the end of each school year in grades 3 through 8. Students receive scores in reading and mathematics, and scores are categorized into four levels that designate student proficiency. Scores that fall in Levels I and II indicate insufficient mastery of skills for success at the next grade level. Level III scores correspond to on-grade-level skills, and Level IV scores indicate mastery of skills well above those required for success at the next grade level.

As shown in the following table, students who received free or reduced-price lunches, Black students, and Hispanic/Latino students scored at or above grade level (Achievement Level III or IV) on the EOG reading tests in 2001 less often than their counterparts at all grade levels. The table also shows that the percentage of student scoring at or above grade level on EOG reading was highest at 5th and 8th grades (the ending grades for elementary and middle schools) and lowest at grades 3 and 6 (the beginning of each level span). For all groups, the percentage of students at or above grade level was lower in 6th grade than in 5th grade. The difference was, however, much greater for Black students, Hispanic/Latino students, and students who received free or reduced-price lunches. Consistent with this pattern, achievement gaps between Black students and White students and between Hispanic/Latino students and White students were smaller in 5th grade than in 3rd grade, were larger in 6th grade, and were smaller in 7th and 8th grades. This same pattern exists when comparing both students who received free or reduced-price lunches and students who did not receive free or reduced-priced lunches.

Figure 15

End-of-Grade Reading
Percent of WCPSS Students who Scored at or above Grade Level, 2000-01

Category	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Total WCPSS	85.3	85.9	90.8	80.7	85.1	90.6
Not F/R Lunch	91.8	92.4	95.1	88.6	91.0	95.0
F/R Lunch	64.7	62.9	73.9	51.4	58.5	68.6
Female	87.1	87.3	91.8	82.8	86.5	92.3
Male	83.5	84.5	89.8	78.7	83.7	88.9
Asian	94.5	94.2	95.6	94.2	91.6	94.7
Black	65.9	65.3	76.9	56.7	64.2	76.1
Hispanic/Latino	74.5	71.7	76.2	59.1	68.8	79.9
White	93.8	94.7	96.7	91.3	93.9	96.4
Multiracial/Other	85.6	88.1	93.3	85.7	86.7	94.4

Source: Dulaney, C. and Burch, G. (2001). 2000-2001 End-of-Grade Multiple-Choice Test Results. (Report No. 01.37). Raleigh, NC: Wake County Public School System, Department of Evaluation and Research.

The results for EOG mathematics test scores in 2001 show patterns that are similar to the EOG reading results. One difference is that the decrease in the percent of students scoring at or above-grade-level across all groups in 6th-grade mathematics was not as large as the decrease in 6th-grade reading. Another difference is that while the achievement gaps in mathematics were smaller in 5th grade than in 3rd grade, the gaps are larger at all three middle school grade levels.

Figure 16

End-of-Grade Mathematics
Percent of WCPSS Students who Scored at or above Grade Level, 2000-01

Category	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Total WCPSS	84.0	92.7	92.1	88.1	87.6	86.9
Not F/R Lunch	91.0	96.5	95.7	93.9	92.5	91.7
F/R Lunch	61.9	79.2	77.7	66.6	65.7	63.1
Male	83.5	92.6	91.2	87.8	87.0	85.9
Female	84.5	92.7	92.9	88.5	88.3	87.9
White	94.4	98.0	97.4	95.8	95.2	94.3
Black	60.0	79.1	78.4	70.8	69.5	67.8
Asian	93.9	99.0	98.0	96.9	95.1	95.5
Hispanic/Latino	75.3	87.4	85.6	74.5	73.2	77.1
Other	81.3	93.2	94.8	88.4	87.8	86.1

Source: Dulaney, C. and Burch, G. (2001). 2000-2001 End-of-Grade Multiple-Choice Test Results. (Report No. 01.37). Raleigh, NC: Wake County Public School System, Department of Evaluation and Research.

The following figure shows the percentage of students in various groups who scored at or above grade level (i.e., in Levels III or IV) on both the reading and math EOG tests. As shown, students who received free or reduced-priced lunches in the 1999-2000 and 2000-01 schools years, in all major racial groups, were much less successful than their counterparts who did not receive free or reduced-price lunches. At the same time, it is important to note that all groups showed improved performance between the 1999-2000 and 2000-01 school years.

Figure 17
Percentage of WCPSS Students Tested Who Were at or above Grade Level on Both EOG Reading and Math Tests, 2000-01

Group	Spring 2000	Spring 2001
All Students In Grades 3-8	79.2%	82.2%
All White Students	90.0%	92.4%
All Black Students	52.4%	57.9%
All Hispanic/Latino Students	60.6%	66.0%
All Asian Students	90.9%	92.6%
All Students Receiving Free/Reduced Lunch	48.3%	54.5%
White F/RL Students	67.6%	74.2%
Black F/RL Students	41.5%	47.7%
Hispanic/Latino F/RL Students	48.0%	56.4%
Asian F/RL Students	77.6%	79.0%
All Students Not Receiving Free/Reduced Lunch	87.2%	89.4%
White Students Not Receiving F/RL	91.4%	93.5%
Black Students Not Receiving F/RL	65.5%	69.3%
Hispanic/Latino Students Not Receiving F/RL	76.3%	79.2%
Asian Students Not Receiving F/RL	92.9%	94.7%

For more details about the End-of-Grade test results, consult 2000-2001 End-of-Grade Multiple-Choice Test Results (E&R Report No. 01.37) and Progress Toward the 95% Goal: 2001 (E&R Report No. 02.03). Both reports are available on the WCPSS web site at http://www.wcpss.net/evaluation-research/.

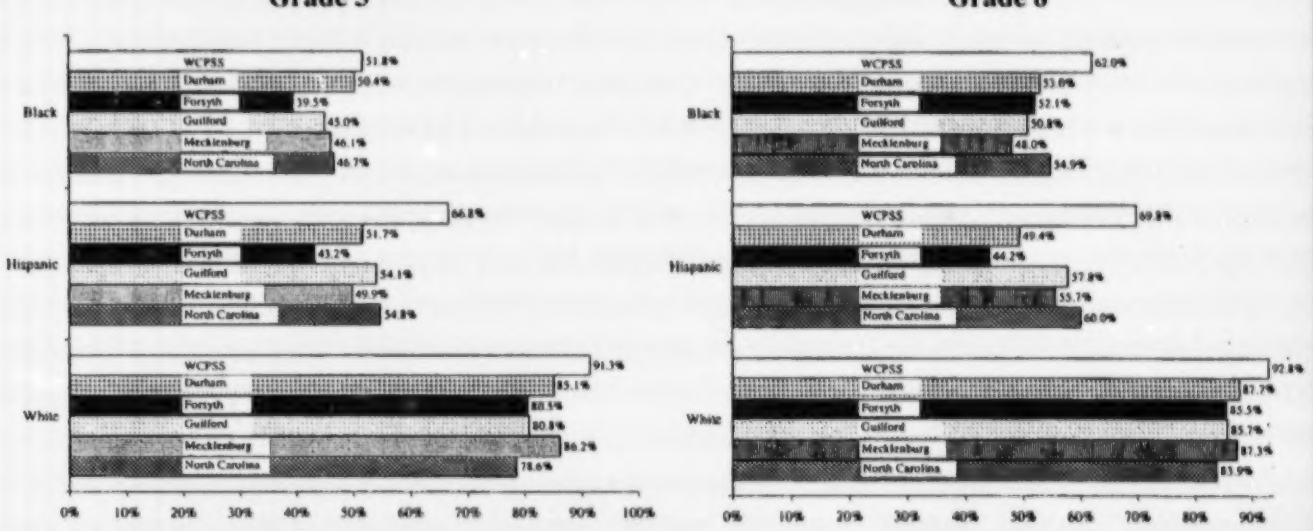
Comparisons with Other Urban Districts in North Carolina

North Carolina's Department of Public Instruction reports the percent of scores (not students) "at or above grade level" on each test at each grade level for demographic groups including race and gender. A "composite" percentage is reported for students who took both reading and mathematics tests for each grade. The composite percentage is reported here for Black, Hispanic/Latino, and White students in grade 3 and grade 8 for comparison since the pattern across grades is similar. The composite percentage of Black, Hispanic/Latino, and White students for WCPSS, the four other large urban school districts in North Carolina, and the state of North Carolina are presented for comparison. This comparison shows that *although the achievement gap for Black and Hispanic/Latino students is similar in other large school districts in North Carolina, WCPSS students in all major racial/ethnic groups did better than same-race students statewide and in all four similar urban school districts.* At 3rd grade, the gap between Black and White students was greater than the gap between Hispanic/Latino and White students in WCPSS, the comparison districts, and North Carolina. At 8th grade, this was also true except

for Durham and Forsyth school districts where the gap between Black and White students was smaller than the gap between Hispanic/Latino and White students.

Figure 18

Percent of Students at or above Grade Level in Both Reading and Mathematics for WCPSS, Four Urban School Districts, and North Carolina, 2000-01



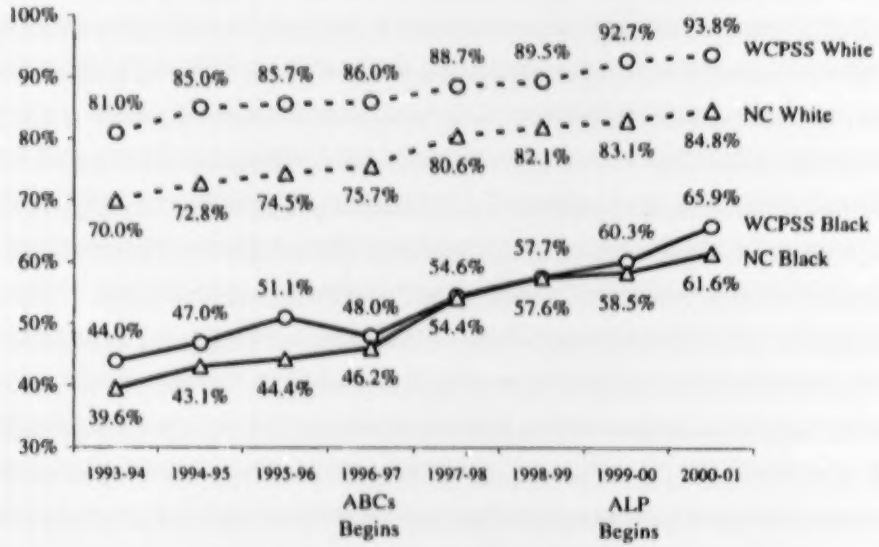
Source: Reports of Supplemental Disaggregated State, District and School Performance Data for 2000-2001, Division of Accountability Services, N.C. Department of Public Instruction.

Changes over Time

As shown in the following figure, Black students in WCPSS did make significant gains in third-grade reading and mathematics in 2000-01 and consequently *the gaps between WCPSS Black and White students are the smallest they have been over the last eight years.* While WCPSS Black students have made greater gains than all North Carolina Black students, *the gaps between WCPSS Black students and White students in reading (27.9%) and in mathematics (34.5%) are still larger than the gaps between North Carolina Black students and White students* (23.2% in reading and 29.8% in mathematics).

Figure 19

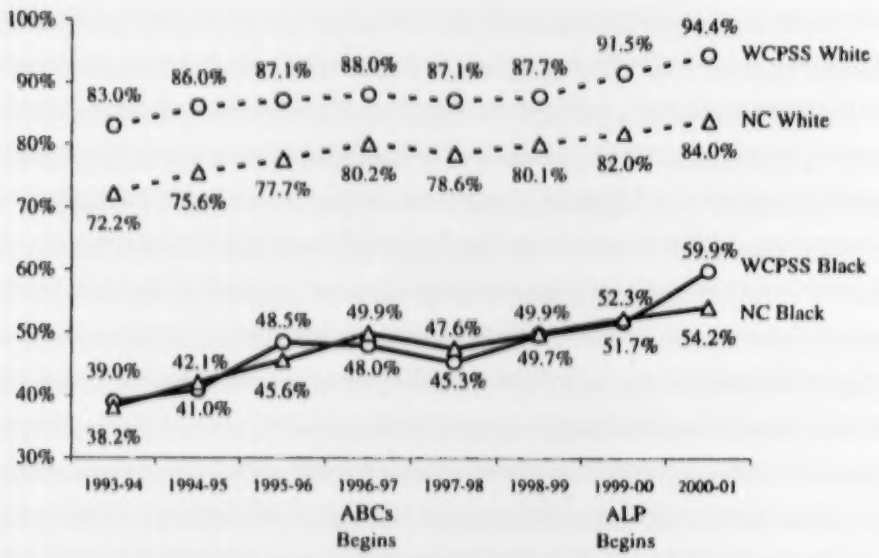
Percent of Grade 3 Reading Scores at or above Grade Level over Time by Race



Source: Reports of Supplemental Disaggregated State, District, and School Performance Data for 2000-2001: A Report Card for the ABCs of Public Education, Volume 2: Subgroup Statistics and Supplemental Data 1996-97, 1997-98, 1998-99, and 1999-00; and State Testing Results 1993-94, 1994-95, 1995-96; Division of Accountability Services, NC Department of Public Instruction.

Figure 20

Percent of Grade 3 Math Scores at or above Grade Level over Time by Race



Over this eight-year period, the achievement gap between Black and White students has closed more in 8th grade than in 3rd grade, both in reading and mathematics.

- The size of the gap in reading in WCPSS has shrunk from about 30 percentage points in 1993-94 to about 20 points in 2000-01.
- For the first time, the gap between WCPSS Black students in eighth grade reading (20.4%) is less than the gap between North Carolina Black and White students (21.2%).
- In 8th-grade math, the gap has shrunk from 40 percentage points to 27 points.
- The gap between WCPSS Black and White stuuents in 8th-grade mathematics (26.5%) is still larger than the gap between North Carolina Black and White students (23.9%).
- As in 3rd grade, most of the 8th-grade improvement has occurred since the implementation of the ABCs program in 1996-97, which was followed by adoption of the WCPSS 95% achievement goal and the implementation of additional assistance to low-achieving students through the Accelerated Learning Program (ALP).

Figure 21

Percent of Grade 8 Reading Scores at or above Grade Level over Time by Race

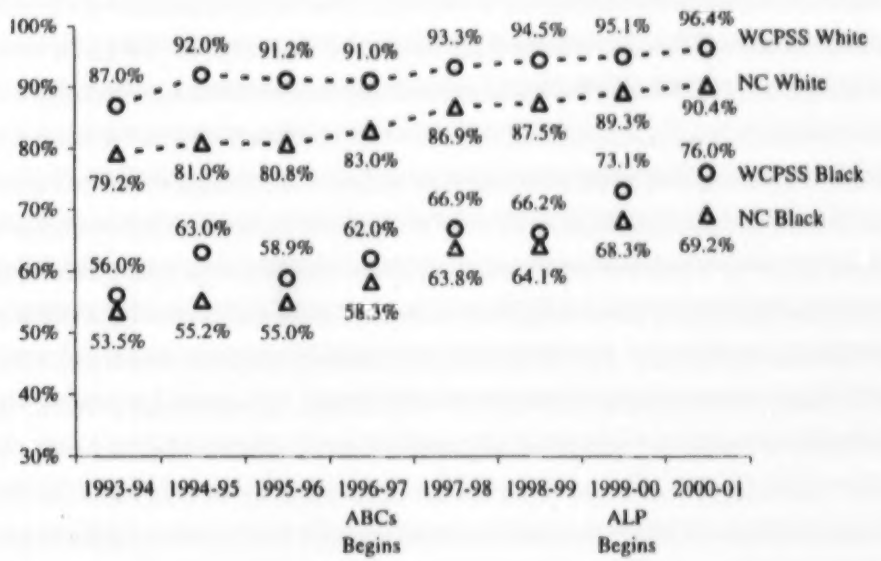
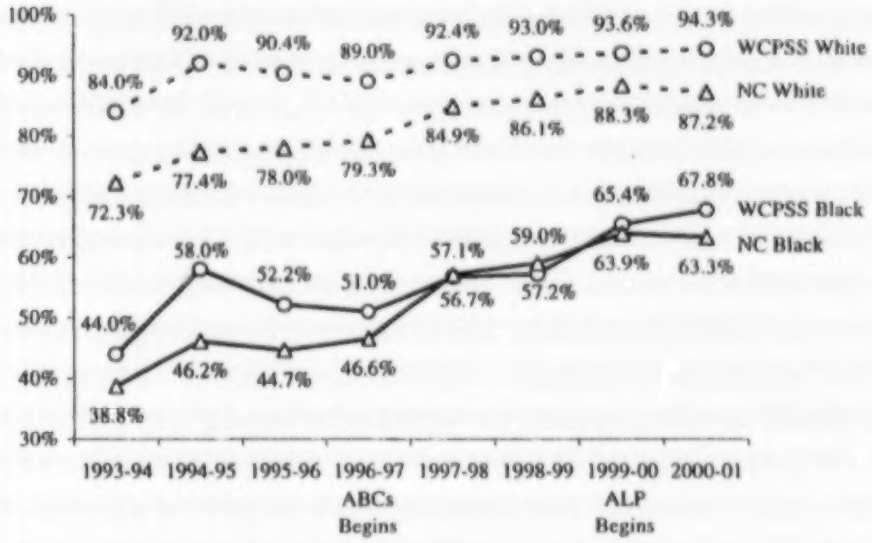


Figure 22

Percent of Grade 8 Math Scores at or above Grade Level over Time by Race



Student Characteristics by Achievement Level

In WCPSS overall, almost two thirds of students are White and one third are from other racial groups. Most families (about three fourths) make a reasonably high income (over the level which would qualify them for free or reduced-price lunches), and about 17% of the students have learning disabilities, which enable them to receive special education services. When disaggregated by achievement level, the characteristics of students who score in Level I or II (below grade level) on the EOG vary considerably from those who score in Levels III or IV (at or above grade level).

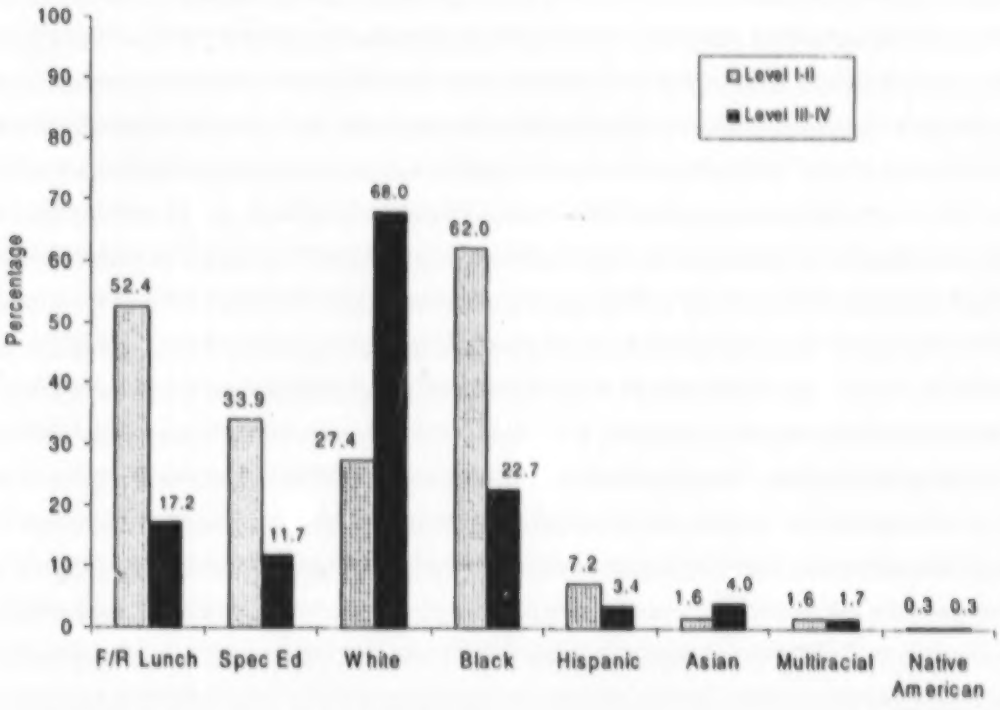
- WCPSS students who score in Levels I or II are over twice as likely as those in Levels III or IV to be minority students and/or low income. Level I or II students are three times as likely as those who score at Levels III-IV to be classified as needing special education.

- Students in Level III mirror district characteristics the most closely. Students in Level IV (above grade level) are less likely to be minority or low income. (See *Gaps in Academic Achievement: WCPSS Status 2000-01* E&R Report No. 01.24.)

Thus, students who score in Levels I and II are more likely to have characteristics that have been associated in research with a greater risk of school failure. Race and socioeconomic status remain related to EOG performance. It is important to note, however, that some low income and minority students score on grade level or above, and some White and higher-income students score below grade level. Notably, about half of those in Level I and II are low income and half are not.

Figure 23

Characteristics of Grade 3-8 WCPSS Students in Spring 2001



Source: ABC Accountability file for 2000-01

HIGH SCHOOL ACHIEVEMENT

BASIC SKILLS INDICATORS

This section looks at high school achievement through two lenses. First, how well do various groups of students succeed in reaching basic standards? Second, how well do they succeed in tackling the highest levels of coursework, college preparation, and similar challenges? For high school students, free and reduced-price lunch rates are not an accurate indicator of family income because many students choose not to submit applications for the program. Therefore, results in this section are disaggregated only by race and/or gender.

English I End-of-Course Test Results (Grade 9)

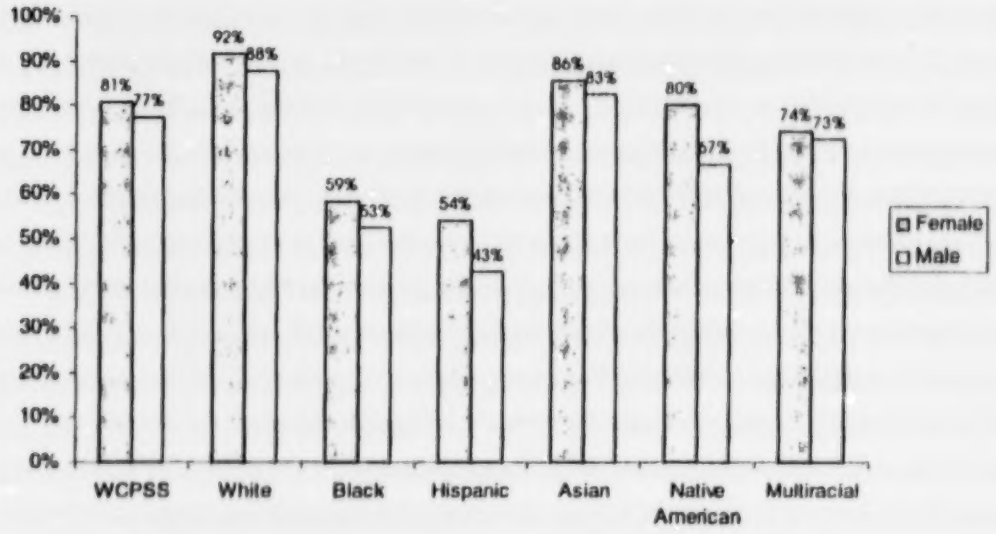
Scores on North Carolina End-of-Course (EOC) exams are grouped into four achievement levels. Students scoring in Levels III and IV are considered well prepared for the next course in the subject matter. Students who score in Levels I and II are considered not well prepared and may struggle in the next course.

Two of the courses required of all students are English I and Algebra I. A passing grade in English I is required for promotion to tenth grade. A passing grade in Algebra I is required for graduation.

As shown in the following figure, *WCPSS White and Asian students were far more successful on the English I EOC test than Black or Hispanic/Latino students*. Slightly more than half of Black students and slightly less than half of Hispanic/Latino students scored at Level III or IV. Females outperformed males in all racial/ethnic groups.

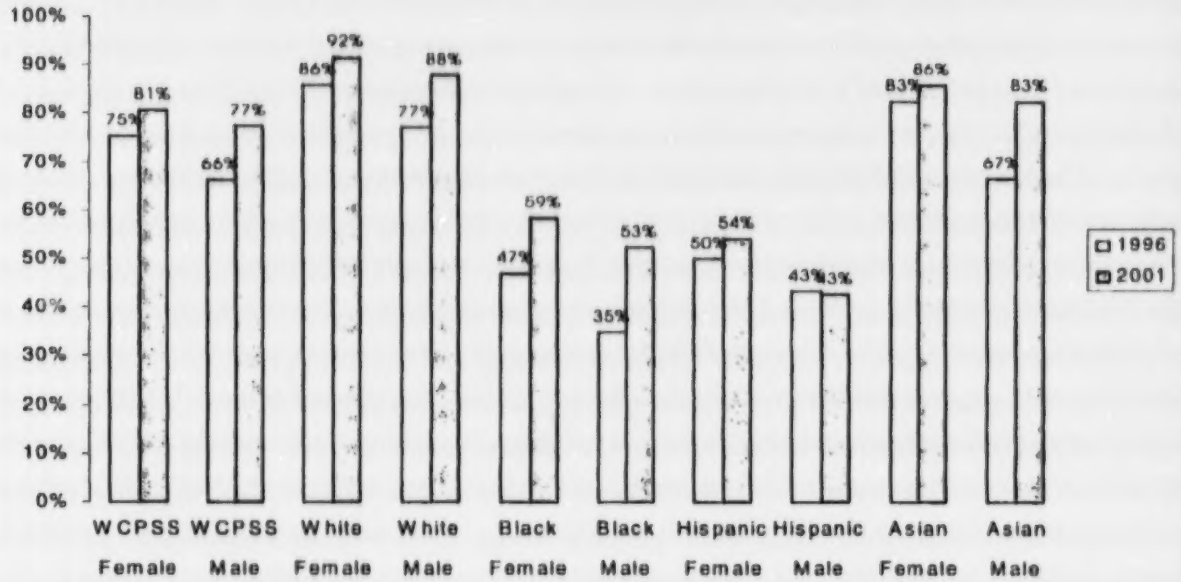
Figure 24

WCPSS English I End-of-Course 2001
Percent at Level III and Level IV by Race and Gender



All racial/gender subgroups were more successful in 2001 than they were in 1996 on the EOC English I test, with, Black students showing the greatest gains. The percentage of Black males scoring at Levels III and IV rose 18 points (from 35% to 53%), while Black females rose 12 points (from 47% to 59%). Thus, the gap between White and Black student achievement in English has narrowed slightly.

Figure 25
WCPSS English I End-of-Course Percent at Level III and Level IV by Race and Gender: Comparison of 1996 to 2001

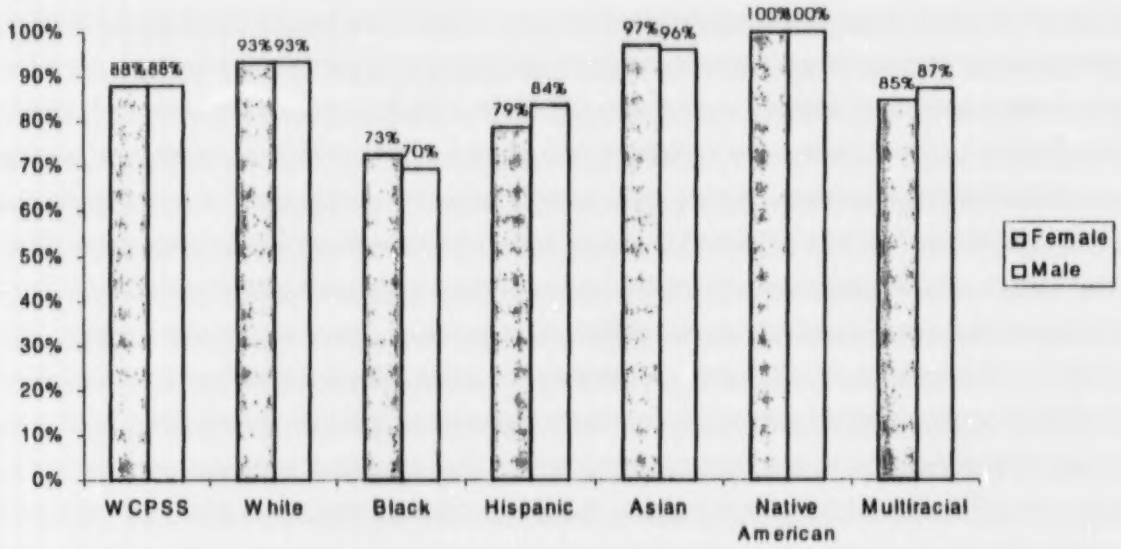


Algebra I End-of-Course Test Results (Grades 7-12)

As shown in the following figure, *differences across racial/gender groups on the Algebra I EOC test were much smaller than differences on the English I test, and gender differences within each racial/ethnic group were very small.* The percentage of Black and Hispanic/Latino students scoring in Levels III and IV on the Algebra I EOC was much higher than the English I EOC.

Figure 26

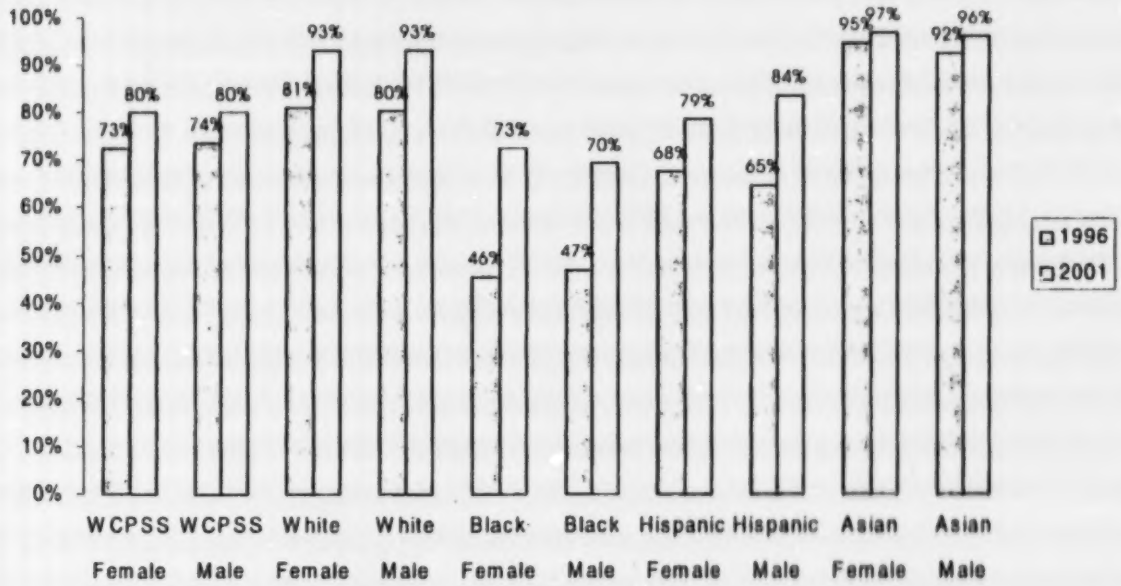
WCPSS Algebra I End-of-Course 2001
Percent at Level III and Level IV by Race and Gender



As the following figure shows, all racial/gender groups showed higher performance levels in 2001 than in 1996, with the greatest gains again occurring for Black males and Black females.

Figure 27

WCPSS Algebra I End-of-Course Percent at Level III and Level IV by Race and Gender: Comparison of 1996 to 2001



Competency Test Scores

A passing score on the North Carolina Competency Test is another requirement for graduation. Students scoring at Level III or IV on the 8th-grade EOG reading and math tests are identified as meeting or passing the competency standard. Students scoring at Levels I or II on the 8th-grade EOG tests must take the Competency Test during high school. The longitudinal results for 8th-grade students on the EOG were reported in pages 17 and 18 of this report and showed overall improvement over time. Passing scores were considerably higher for White, Native American, Multiracial, and Asian students than for Black and Hispanic/Latino students.

Students who do not meet the graduation requirement at the end of 8th grade must take remedial classes in high school and may retake the tests each semester until they meet the competency standard. Students who must take remedial classes are often unable to take other electives during the school day. This limitation, in turn, may restrict students from pursuing individual academic interests and extracurricular activities that are an important part of high school. Differences in passing rates on competency tests may have a negative impact on other indicators such as dropout rate

The following table shows the percent of students in grades 9 through 12 who had passed the competency test as of May 2001, either in 8th grade or after enrolling in high school. Gaps still exist in performance, although the Black-White gap is smaller than at 8th grade. The largest gap is between Hispanic/Latino and White students.

Figure 28

Competency Passing Rates by Race for 2000-01
Grades 9-12

	White	Black	Hispanic/ Latino	Asian	Native American	Multi-racial	Wake County
Reading	95.3%	81.3%	67.5%	89.3%	90.0%	82.4%	90.7%
Math	95.2%	79.9%	69.7%	93.6%	86.0%	82.4%	90.5%
Met Standard	94.4%	75.5%	64.4%	88.6%	86.0%	78.1%	88.6%

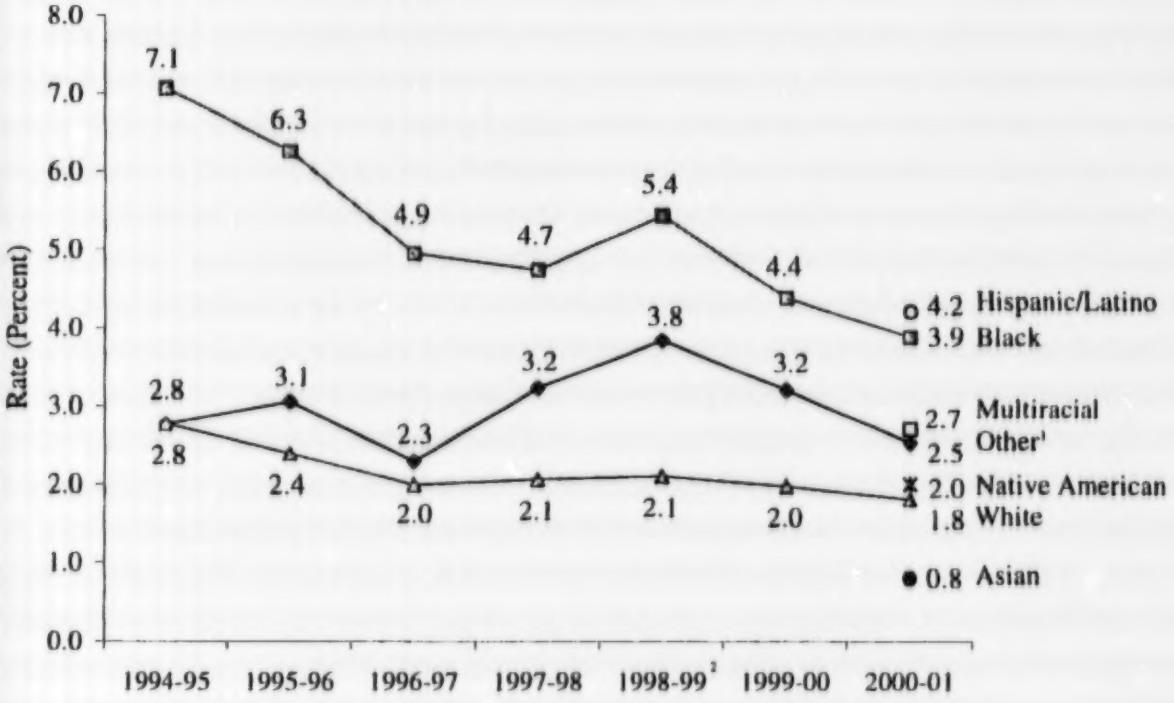
Source: WCPSS ABC Accountability Program file for 2000-01

Dropout Rates

The WCPSS dropout rates for grades 7-12 for all ethnic groups have been declining, as has the overall dropout rate for WCPSS. The increase in dropout rates in 1998-99, likely due to the change in reporting transfers to community college GED programs as dropouts, was more significant for Black and Other students than for White students. Since 1994-1995 the gap between the dropout rate for Black students and White students has decreased from 4.3 to 2.1 percentage points.

Figure 29

WCPSS Dropout Rates for Grades 7-12 by Race, 1994-95 to 2000-01



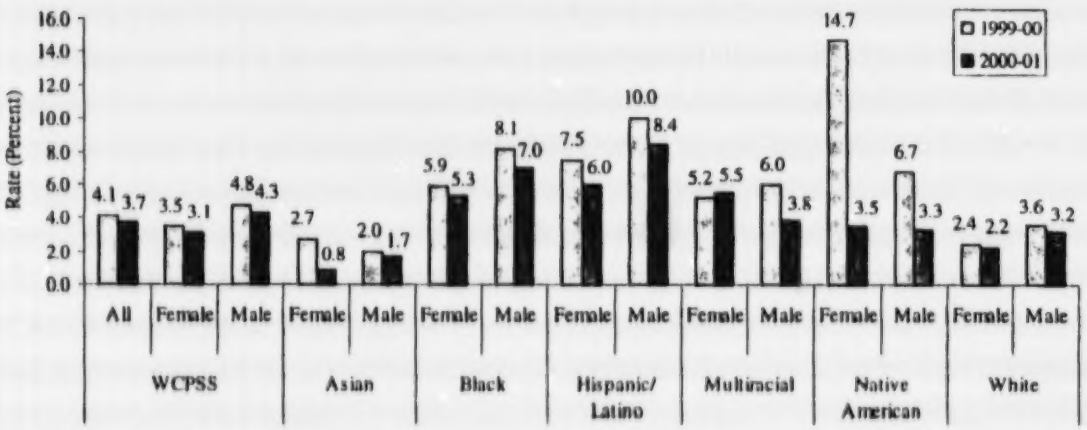
[1]Other includes Asian, Hispanic/Latino, Native American, and Multiracial students.
[2]Beginning in 1998-9, students transferring to community college GED programs are counted as dropouts.

The dropout rates for Asian, Hispanic/Latino, Native American, and Multiracial students are not shown over time in the preceding figure because these data were not available prior to 2000-01. These four racial/ethnic groups, however, are represented in the line for Other. Black and Hispanic/Latino students had the highest dropout rates, both about twice the rate for White students. The dropout rates for Native American and Multiracial students were slightly higher than the rate for White students while the dropout rate for Asian students was about half that of White students.

Figure 30 shows the *high school* (grades 9-12) dropout rates for all racial groups by gender for 1999-00 and 2000-01. White and Asian students had the lowest dropout rates and both were substantially lower than the rates for Black students and Hispanic/Latino students. Males had a higher dropout rate than females overall. This was true for Asian, Black, Hispanic/Latino, and White students. The number of Native American students in membership and the number that dropped out were very small (7 dropouts in 1999-00, and 2 in 2000-01) which is why the dropout rates for this group appear to change dramatically.

Figure 30

Dropout Rates Grades 9-12 by Race and Gender, 1999-00 and 2000-01



ADVANCED SKILLS INDICATORS

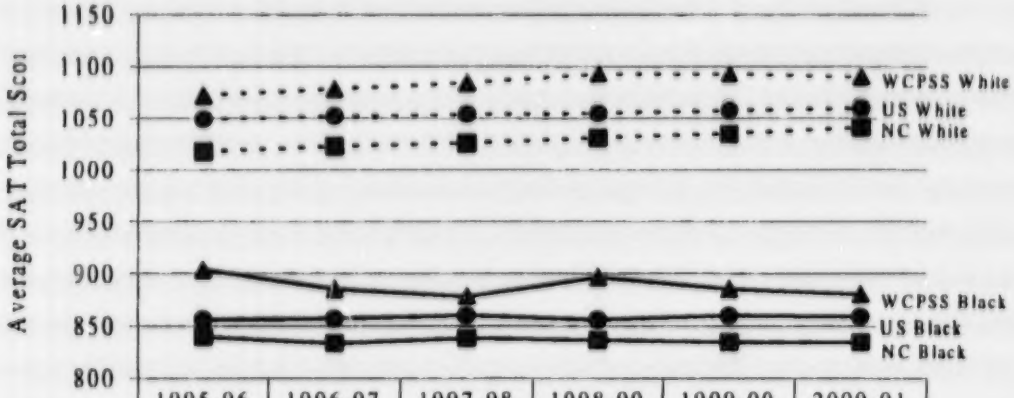
SAT Scores in WCPSS and Comparisons with North Carolina and the Nation

The Scholastic Achievement Test (SAT I) is widely used as part of the college admission process. Although all high school students do not take the test, nearly two thirds of students in North Carolina take the SAT because it is required for admission to colleges in the University of North Carolina system. In WCPSS, participation has increased slightly in recent years. In 2000-01, the participation rate was 78.6%.

The average total SAT score for WCPSS seniors in 2000-01 was 1,054, the fifth highest in the state. As shown in the following figure, there is a large gap between the average scores of Black and White students in the U.S., N.C., and WCPSS. Average total SAT scores for White students in North Carolina and WCPSS have been steadily rising for the past five years. Scores for Black students, however, have remained significantly lower than for White students and have not shown the same improvement trend seen for White students. The gap in average total SAT scores between Black students and White students has been increasing in the nation, in North Carolina, and in the WCPSS.

Figure 31

WCPSS, North Carolina, and United States Average Total SAT Scores



	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
WCPSS White	1072	1078	1084	1093	1093	1090
US White	1049	1052	1054	1055	1058	1060
NC White	1018	1023	1026	1031	1035	1041
WCPSS Black	904	886	879	897	886	881
US Black	856	857	860	856	860	859
NC Black	840	834	839	837	835	835

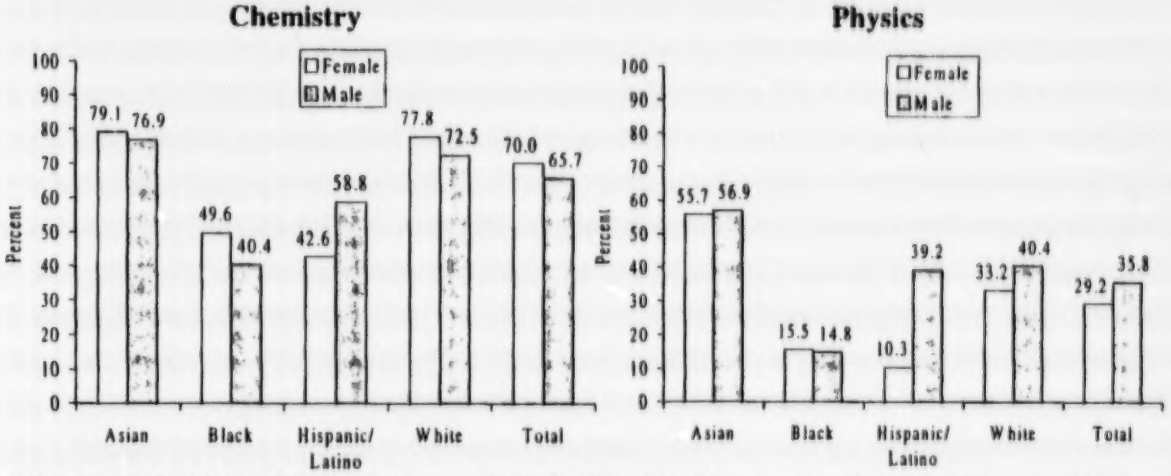
Source: Dulaney, C. and Burch, G. (August 2001). 2000-01 Scholastic Assessment Test (SAT) Results. (Report No. 01.31). Raleigh, NC: Wake County Public School System, Evaluation and Research Department.

Participation in Chemistry or Physics

One indication that students may be planning to attend college is the completion of advanced courses not required for graduation but usually taken by students who intend to go on to college. Data are available for two such courses: chemistry and physics. As shown in the following figure, *more than 70% of Asian and White students completed a chemistry course by the end of the 12th grade. A much lower percentage of Black and Hispanic/Latino students (about 45-50%) completed a chemistry course.* There were also greater differences by gender for these two groups. More Black females (49.6%) completed a chemistry course compared to Black males (40.4%). Among Hispanic/Latino students, a higher percentage of males completed a chemistry course than did females (58.8% vs. 42.6%).

Figure 32

Percent of Seniors who Completed a Chemistry or Physics Course While in High School 2000-01



Note: Results for Alaskan/Native American are not included because there were less than 30 twelfth grade students in this group. These results are based on students in membership in the final month 2000-01 using Masterbuild records.

A lower percentage of students completed a physics course by the end of 12th grade (approximately 32%). A much higher percentage of Asian/Pacific Islander students completed a physics course compared to the other ethnic groups (more than 55%). White students were the group with the next highest percentage of students completing a physics course, but the differences by gender were larger (33.2% of females compared to 40.4% of males). Black students (approximately 15%) were the group with the lowest proportion of students completing a physics course. Hispanic/Latino students had the greatest difference between males and females. Nearly 40% of Hispanic/Latino males completed a physics course compared to about 10% of Hispanic/Latino females.

There are likely many reasons for the differences among ethnic and gender groups in the rate of completing a chemistry or physics course. One reason might be a lack of preparation in the years leading up to the point when these courses might be taken. Another reason might be differences in ethnic and gender expectations of students, parents, and educators.

AP Participation and Exam Results

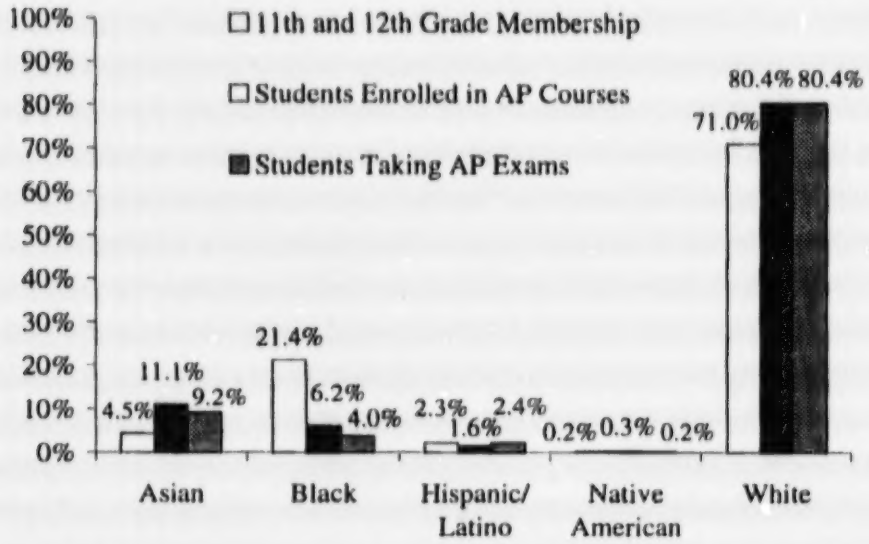
To assess AP participation, the representativeness of students in membership in 11th and 12th grade was compared to their representativeness in AP course enrollments and in taking AP exams. Comparisons by ethnic group and by gender are shown in Figure 33.

Asian and White students were overrepresented in their enrollment in AP courses and in the number of AP exams taken compared to the percent of the 11th and 12th grade membership they represent. In contrast, Black students were the most underrepresented. Black students represented 21.4% of 11th and 12th grade students, yet they represented only 6.2% of students enrolled in AP courses and 4.0% of students taking AP exams. Hispanic/Latino students were also underrepresented, but by a much smaller margin. Native American students were about equally represented in membership, AP course enrollment, and in taking AP exams.

The percentage of AP exam scores of 3 or higher was 77.2% overall in WCPSS. As shown in Figure 34, for all racial groups except Blacks, the percentage clustered in the 78-85% range (Native American, Asian, White, and Hispanic/Latino). However, the percentage of Black students scoring 3 or higher was considerably lower (54.5%).

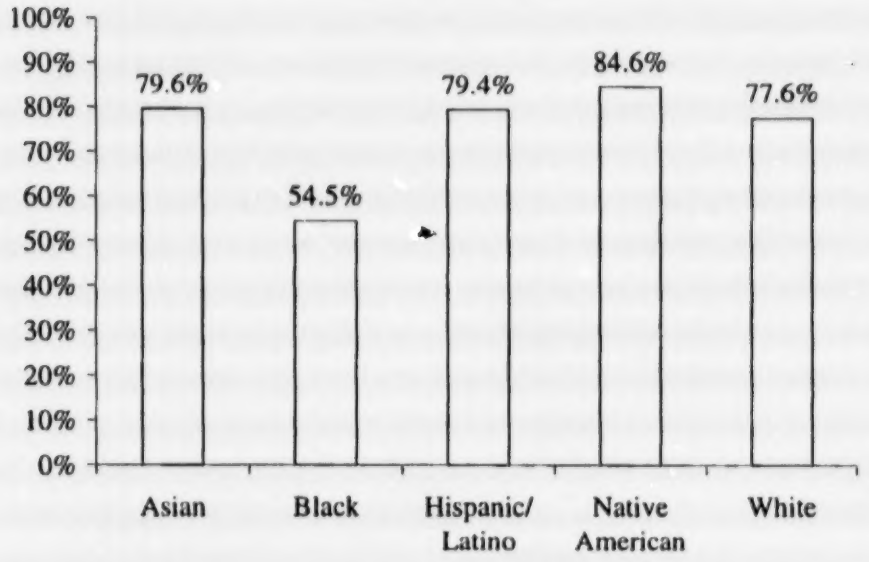
Figure 33

Representativeness by Ethnic Group in Student Membership, Enrollment in Advanced Placement Courses, and Students Taking AP Exams
2001



Note: Eleventh and twelfth grade membership and enrollment in AP courses are based on March 2001. Students take AP exam in May each year.

Figure 34
WCPSS Percent of Advanced Placement Exam Scores of 3 or Higher by Ethnic Group
2001



The next figure shows performance on four commonly taken AP exams by race, based on both mean scores and the percent scoring 3 or above for WCPSS and the U.S. As shown, WCPSS students outperformed students nationally for the majority of exams in all racial categories. Only biology results for Black and Asian/Pacific Islander students were below the national average. The biology score for Black students was based on only 6 student scores, and biology results for Asian/Pacific Islander students were only 1.5 percentage points lower than the national average.

Performance in English literature is actually fairly consistent by race for those assessed, with only an 8% performance gap between Black and White students. The gap between Black and White students in U.S. history, however, was 20%.

Figure 35

AP Results by Race:
WCPSS Compared to National Results for Four AP Courses

Race	Type of Score	AP Course Examination							
		Biology		Calculus AB		English Lit.		U.S. History	
		WCPSS	U.S.	WCPSS	U.S.	WCPSS	U.S.	WCPSS	U.S.I
Black	% 3+	16.7%*	26.9%	77.8%*	33.6%	66.7%	30.2%	42.1%	25.1%
	Mean	2.17*	1.97	3.56*	2.07	3.00	2.18	2.58	2.05
Asian	% 3+	62.2%	63.7%	86.4%	66.0%	76.5%	63.3%	69.4%	53.5%
	Mean	3.14	3.14	3.98	3.08	3.09	2.99	3.07	2.84
Hispanic/ Latino*	% 3+	40.0%*	33.9%	100.0%*	42.3%	77.8%*	37.5%	66.7%	27.6%
	Mean	2.75*	2.28	3.75*	2.43	2.94*	2.42	3.25	2.19
White	% 3+	78.0%	61.7%	84.7%	66.7%	74.4%	68.1%	63.8%	54.6%
	Mean	3.42	3.05	3.81	3.09	3.17	3.07	3.10	2.85

* Fewer than 12 students took the test.
Source: WCPSS membership by race and gender, September 2000-01; Advanced Placement Report APPC 2300

UNDERSTANDING THE GAP

STUDENT MOBILITY VERSUS STABILITY

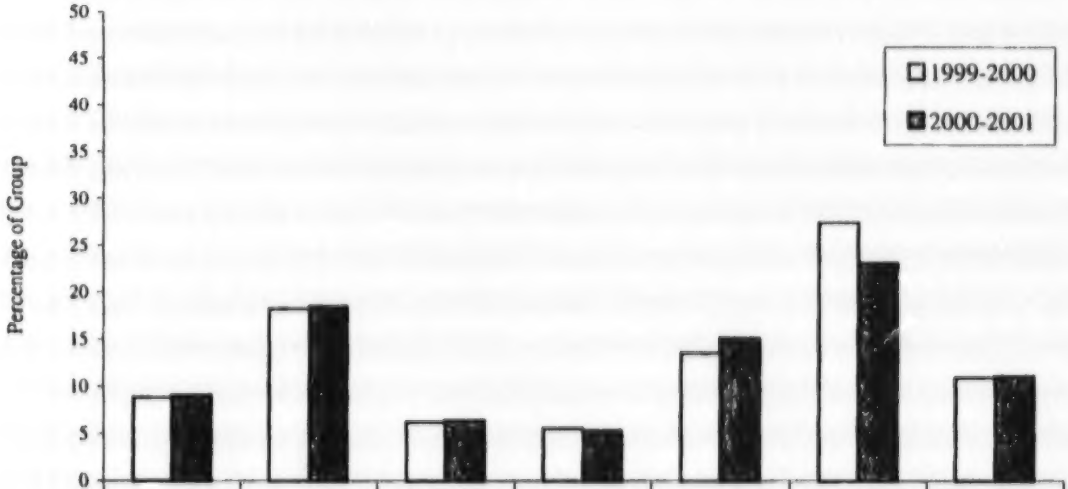
Many factors outside the control of the school can affect student performance. One such factor is student mobility. One way of examining mobility is to determine the percentage of students who are "stable" during a school year. Stability, in this case, is defined as the percentage of students at the end of a school year who began school during the first week of the school year and remained in that school for the entire year. Students are identified as "mobile" if they ended the school year having been enrolled in a school for less than the entire year.

In 2000-2001, 9.1% of WCPSS students in grades 3-8 were not stable and spent only a portion of the school year in the school they were attending at the end of the year. (Grades 3-8 were chosen for this report because stability rates tend to be higher in high schools and mask the impact of mobility on elementary and middle schools.) This "mobility" rate was slightly higher than the previous school year when it was 8.9%.

Mobility rates show very little difference by gender or grade level, but vary widely by race and economic status, as shown in the following figure.

Figure 36

Percentage of WCPSS Students in Grades 3-8 Designated as "Mobile"



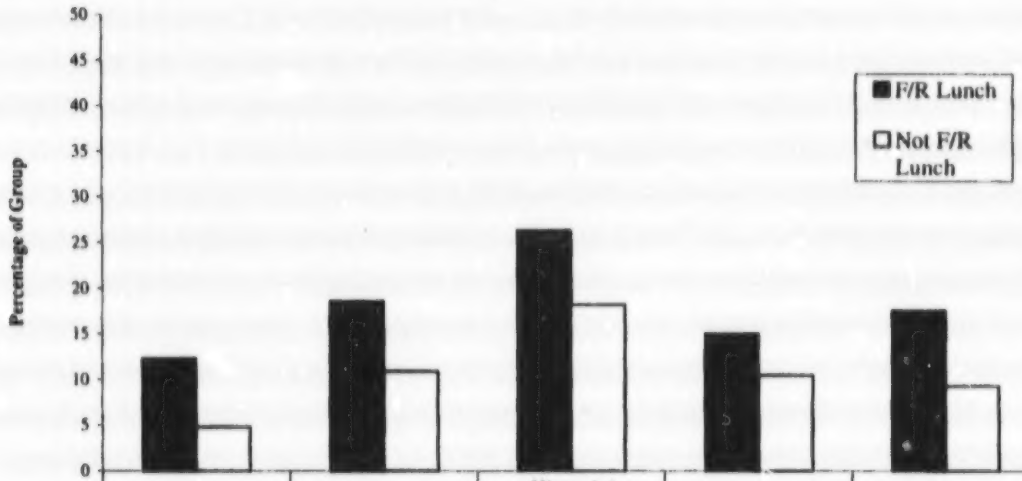
	All Students	F/R Lunch	Not F/R Lunch	White	Black	Hispanic/ Latino	Asian
1999-2000	8.9	18.3	6.2	5.5	13.6	27.5	10.9
2000-2001	9.1	18.5	6.4	5.3	15.1	23.2	11.1

As shown in Figure 37, student mobility fell for Hispanic/Latino students in 2001 but rose slightly for Black and Asian students. The mobility rate for White students is significantly lower than for the three major minority groups. A large gap also exists between students receiving free or reduced-price lunches and students not receiving lunch assistance.

The mobility rate for students from low-income families is much greater than for higher-income families across all racial groups. The mobility rate for Hispanic/Latino students, both those who are not receiving free or reduced-price lunches and those who are receiving lunch assistance, is much higher than for other groups.

Figure 37

Mobility of WCPSS Students in Grades 3-8 in 2000-2001 by Race and Family Income Level



	White	Black	Hispanic/ Latino	Asian	Multiracial
F/R Lunch	12.2	18.5	26.2	15.0	17.4
Not F/R Lunch	4.8	10.8	18.2	10.4	9.3

STAFF CHARACTERISTICS AND TURNOVER

Research in other school districts and states suggests that students with the greatest needs are more likely to be taught by the least qualified teachers (NCES, 1996). In E&R Report 01.24, we saw that the pattern is not so clear in WCPSS. In that report, we showed that WCPSS elementary schools with the *highest* percentage of Black students (compared to those with the lowest), had:

- No difference in the percentage of teachers with lateral entry,
- Slightly higher resignation rates and considerably higher rates of transfer requests,
- Higher percentages of teachers with the most experience, and
- Slightly higher percentages of teachers with master's degrees or above in schools.

Thus, resignation and transfer rates were concerns, but teacher experience and advanced degrees were strengths of WCPSS schools with higher percentages of Black students.

To supplement the analyses from E&R Report 01.24, we conducted additional analyses based on income status. Comparing those with the lowest and highest percentage of low-income (FRL) students (the highest and lowest 10% of schools at each level). Again, there was no clear pattern to suggest that our less-affluent students are taught by less-qualified teachers. We found those with the *highest* percentages of low-income students had:

- Teachers with *more* experience, on the average, and
- Teachers who were somewhat *less* likely to have master's degrees or above.

When disaggregated by teachers' ethnicity, average years of experience does not vary consistently for Black and White teachers in schools with the highest and lowest percentages of low-income students. (The number of teachers in the other groups is too small for a fair examination of trends.)

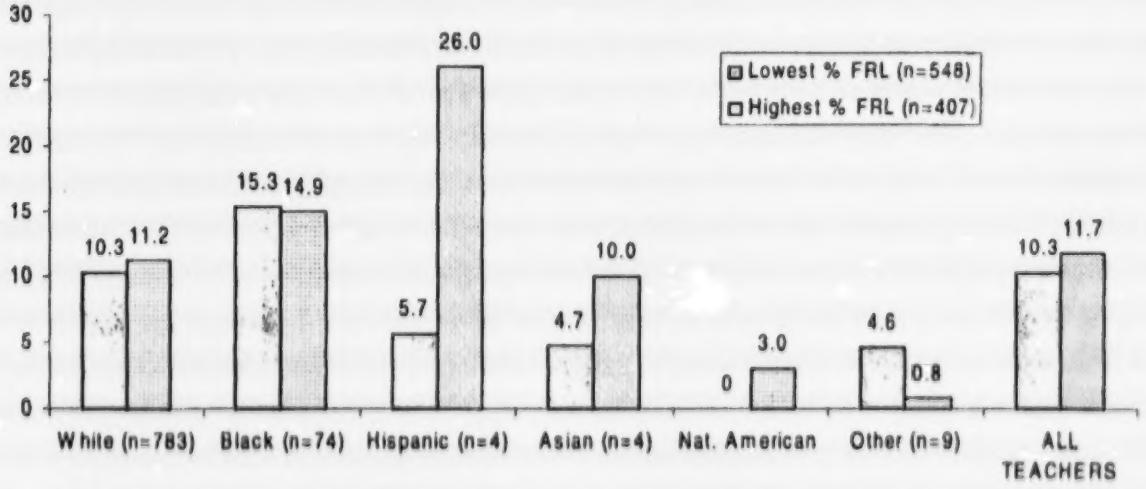
Figure 38

Staff Characteristics of WCPSS Schools with the Lowest and Highest FRL Enrollment (2000-01)

Shading = desirable outcome	Schools with Lowest % FRL		Schools with Highest % FRL	
	Average		Average	
Teacher experience	10.3 years	Elementary	11.7 years	Elementary
	13.1 years	Middle	13.5 years	Middle
	14.9 years	High	13.8years	High
Teachers with master's degrees or above	35.3%	Elementary	23.6%	Elementary
	36.0%	Middle	30.7%	Middle
	38.6%	High	32.2%	High

Figure 39

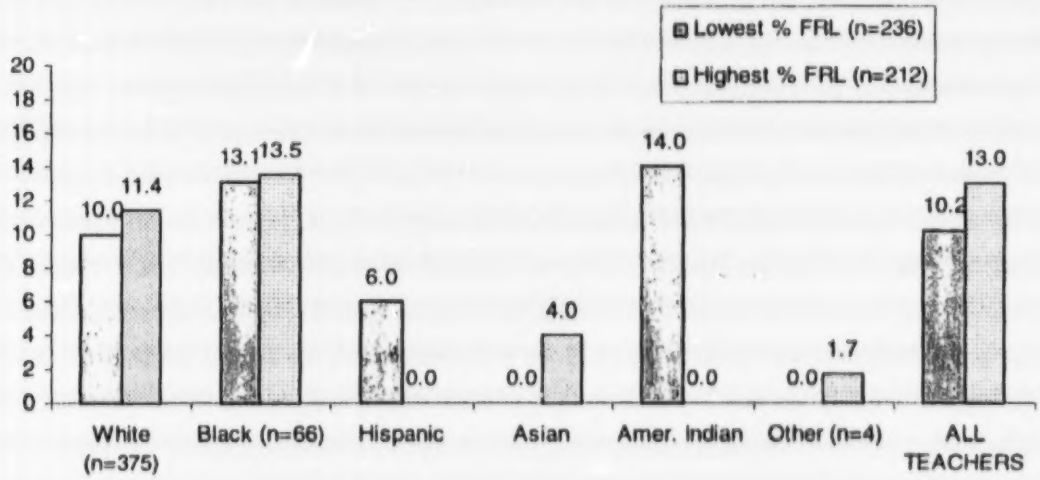
Average Years of Experience for Teaching Staff in WCPSS Elementary Schools with the Lowest and Highest FRL Enrollment (2000-01)



Source: WCPSS Human Resources Department, based on 10% of elementary schools (eight each from the schools with highest and lowest enrollments of students receiving free or reduced-price lunch)

Figure 40

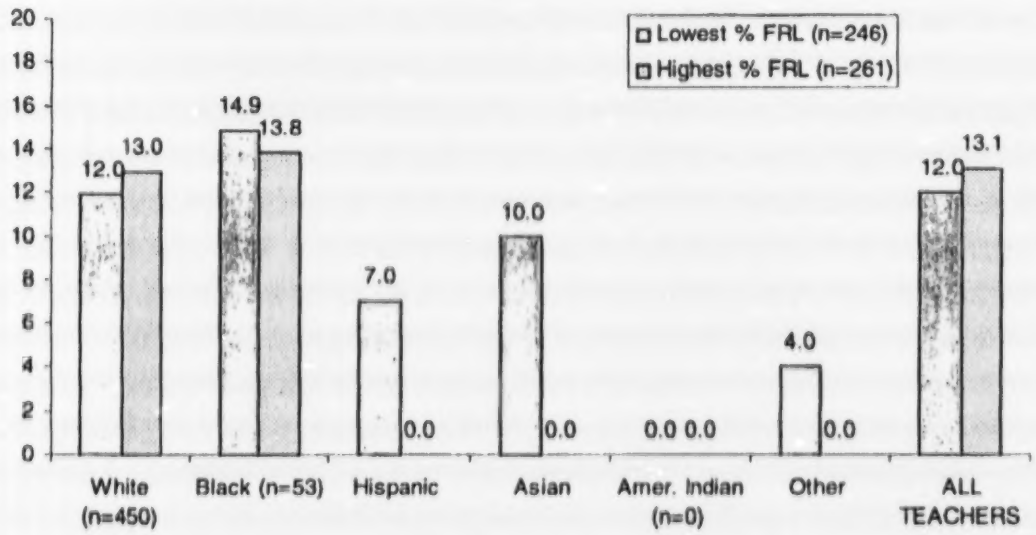
Average Years of Experience for Teaching Staff in WCPSS Middle Schools with the Lowest and Highest FRL Enrollment (2000-01)



Source: WCPSS Human Resources Department, based on 10% of middle schools (3 each from the schools with highest and lowest enrollments of students receiving free or reduced-price lunch)

Figure 41

Average Years of Experience for Teaching Staff in WCPSS High Schools with the Lowest and Highest FRL Enrollment (2000-01)



Source: WCPSS Human Resources Department, based on 10% of elementary schools (2 each from the schools with highest and lowest enrollments of students receiving free or reduced-price lunch)

PARENT AND COMMUNITY INVOLVEMENT

Schools often report that support from parents and the community (in time as well as financial resources) is more limited in schools with more low income and/or minority students (due to the correlation between race and income). Schools with less supplemental income beyond normal allotments may be less able to improve the academic climate through expenditures such as technology, writers-in-residence, improvements to grounds, or other enhancements.

In the previous report (E&R Report 01.24), we compared the five elementary schools with the lowest and highest percentage of Black students enrolled and found that:

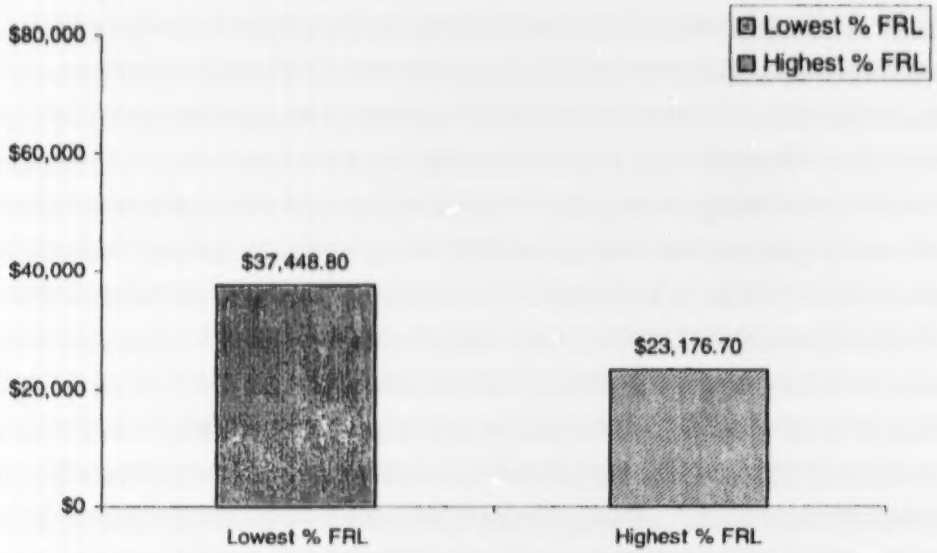
- Schools with a low percentage of Black students were able to raise 87% more through school fundraisers than schools with a high percentage of Black students (an average of $37,840 versus $20,217, respectively).

- Budgets for the parent-teacher associations (PTAs) showed that schools with the lowest percentage of Black students had PTA budgets twice the size of the schools with the highest percentage of Black students.

For this report, we analyzed the funds available to the schools from Fund 6 for schools with the highest and lowest percentages of students eligible for free or reduced-priced lunches. (Fund 6 includes a percentage of sales from soft drinks in the schools, PTA funds, Booster Club funds, receipts from athletic events, and other miscellaneous revenue.) We chose the highest and lowest 10% of the schools per level (eight high and low schools for elementary, three each for middle school, and two each for high school). We found that schools with the lowest percentage of FRL students did receive considerably more income from Fund 6. Thus, schools with the lowest percentages of FRL students have more supplemental resources at their disposal than schools with the highest percentage of FRL students.

Figure 42

Average Discretionary Funds (Fund 6) in WCPSS Elementary Schools with the Highest and Lowest FRL Percentages



(Balances as of June 30, 2001)

Figure 43

Average Discretionary Funds (Fund 6) in WCPSS Middle Schools with the Highest and Lowest FRL Percentages (Balances as of June 30, 2001)

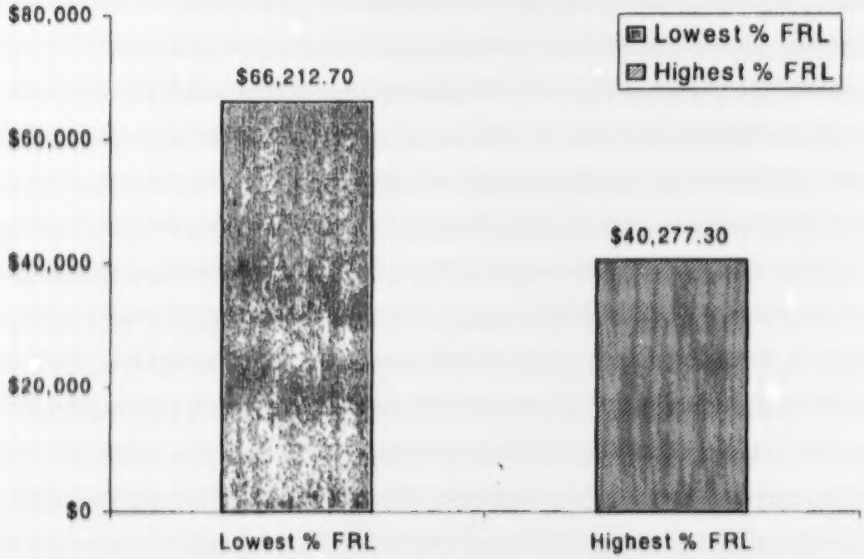
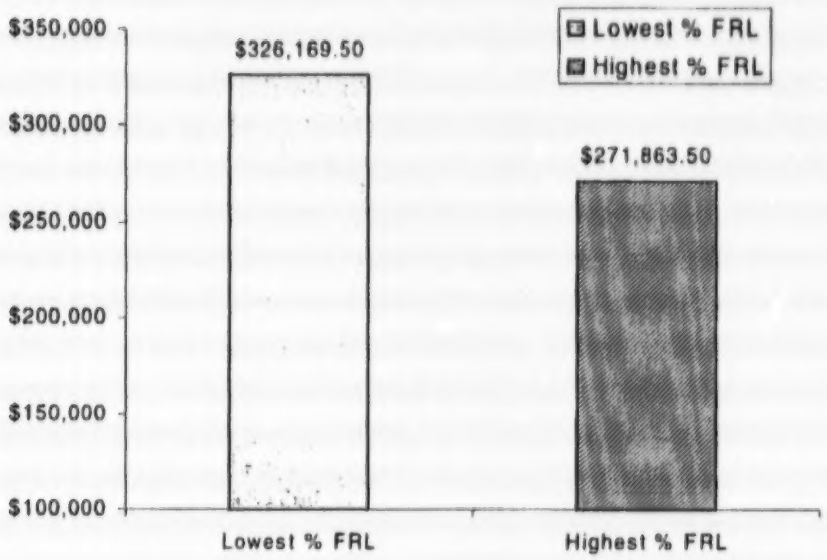


Figure 44

Average Discretionary Funds (Fund 6) in WCPSS High Schools with the Highest and Lowest FRL Percentages (Balances as of June 30, 2001)

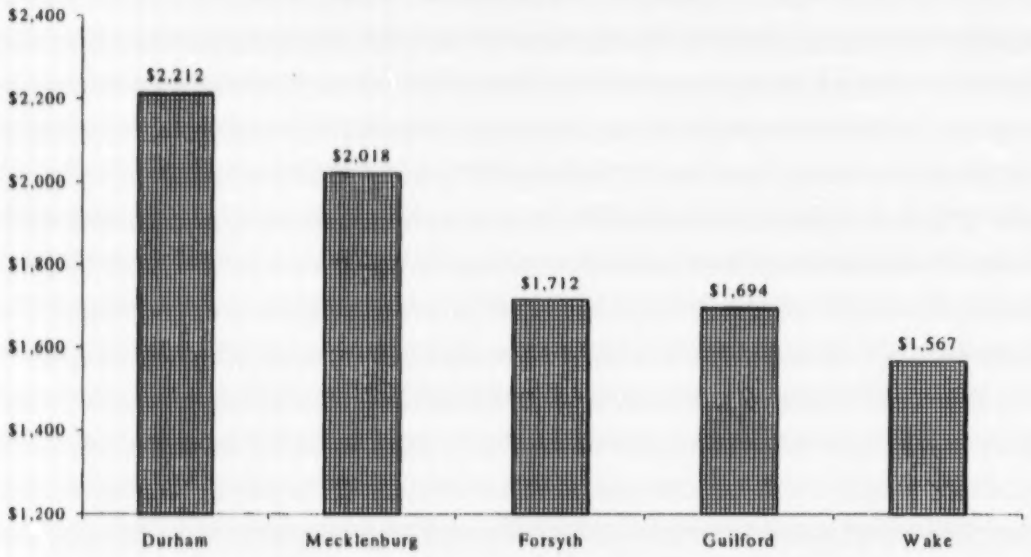


PER-PUPIL EXPENDITURES

Resources available to address the achievement gap vary across school districts in our state. Extra support for at-risk students, increased professional development for teachers, and other activities to address the gaps outlined in this report can have significant costs. In comparison with five similar-sized school systems in North Carolina, WCPSS shows the lowest *total* per-pupil expenditure, and the lowest locally-funded per pupil expenditure as well in 1999-2000 (the latest figures available). The figure below shows the local portion of the per-pupil expenditures. The comparison school systems are Durham, Guilford, Forsyth, and Charlotte-Mecklenburg. Local per-pupil expenditures range from $2,212 in Durham to Wake County's $1,567.

Figure 45

1999-2000 Per-Pupil Expenditures—Local Funds



RESEARCH ON CLOSING THE GAP

In "Gaps in Academic Achievement: WCPSS Status 2000-01" (E&R Report 01.24), we summarized several strands of research intended to help educators better understand the data discussed in this report. The last section of Chapter V in that report also discusses research on possible ways to narrow the gap. As mentioned in the introduction of this report, North Carolina has a State Commission on Closing the Achievement Gap, and a search of the DPI website reveals a number of reports on this topic (http://www.ncpublicschools.org/search.htm).

Since our previous report was published, new federal legislation has been created to address the achievement gap. That legislation reauthorized but also radically changed the federal Elementary and Secondary Education Act (ESEA), now referred to as the No Child Left Behind (NCLB) act. This legislation requires that 100% of students meet state achievement proficiency standards within 12 years. In brief, the new law means that all students in *all* groups must succeed. Ultimately, compliance with this federal legislation will require that achievement gaps be closed.

The NCLB legislation also requires LEAs to implement sound, effective, *research-based* strategies for closing the gap. Programs that are not already nationally validated will need to have strong evaluation components.

A quick literature search on the achievement gap yields at least 200 studies in the last 10 years on this topic. In reviewing this research, one is struck by two things. First, most of these research studies propose either a specific approach or provide "laundry lists" of effective strategies, with each researcher trying to identify guaranteed programs, strategies, or prerequisites for closing the gap. (Readers in search of such a strategy list may find the one in E&R report 01.24 to be a useful synthesis and compilation of the work of various researchers.) Some of the "validated" programs have not worked as well when they were implemented across the country as they did when they were implemented in a smaller number of sites. Second, various lenses are used to look at the same issue and these yield slightly different recommendations, although the recommendations are often variations on the same theme. For example, some studies try to identify root causes (e.g., the impact of socioeconomic differences) while others look for instructional practices thatd may be allowing or even causing some students to fall behind.

Perhaps it is time to acknowledge that there is no magic bullet and no magic laundry list; closing the achievement gap will require some very basic things:

- Differentiated resources to serve the students furthest behind.
- Help from parents and the community.
- Good teaching.
- Good school administration.

And fortunately, there are many excellent research studies on these topics.

In closing, it seems appropriate to end with the following quote from researcher Ron Edmonds (1979), who said,

> *How many effective schools would you have to see to be persuaded of the educability of poor children? If your answer is more than one, then I submit that you have reasons of your own for preferring to believe that basic pupil performance derives from family background instead of school response to family background.*
>
> *Whether or not we will ever effectively teach the children of the poor is probably far more a matter of politics than of social science and that is as it should be. We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us. We already know more than we need to do that. Whether or not we do it must finally depend on how we feel about the fact we haven't so far.*

REFERENCE LIST

Edmonds, R. (1979) "Effective Schools for the Urban Poor," Educational Leadership, 37, 15-23.

Gaps in Academic Achievement: WCPSS Status 2000-01 (2001), E&R Report No. 01.24.

GAPS IN ACADEMIC ACHIEVEMENT: WCPSS STATUS 2001-02

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